

CARLISLE PLANNING BOARD
RULES AND REGULATIONS
governing
THE SUBDIVISION OF LAND

January 23, 1989, revised July 8, 1991, January 9, 1995, September 29, 1997, April 27, 1998,
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**CARLISLE PLANNING BOARD
SUBDIVISION RULES & REGULATIONS
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Exhibits

Exhibit A - Form A, Application for Endorsement of Plan Believed Not to Require Approval

Exhibit B - Form B, Application for Approval of a Preliminary Plan

Exhibit C - Development Impact Report

Exhibit D - Form C, Application for Approval of a Definitive Plan

Exhibit E - Horizontal Design Standards, Vertical Design Standards, Stopping Sight Distances

Exhibit F - Fee Schedule

Please note: Only Exhibits E and F are included in this online document. For Exhibits A, B, C, and D, please contact the Carlisle Planning Board office, 66 Westford Street, Carlisle, MA 01742.

**TOWN OF CARLISLE
SUBDIVISION RULES AND REGULATIONS**

**ARTICLE I
PURPOSE; AUTHORITY**

SECTION 1. Purpose

These Rules and Regulations are intended to effectuate the purposes of the Subdivision Control Law as set forth in Section 81M of Chapter 41 of the General Laws which states: "The Subdivision Control Law has been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the cities and towns in which it is, or may hereafter be, put in effect by regulating the laying out and construction of ways in subdivisions providing access to several lots therein, but which have not become public ways, and ensuring sanitary conditions in subdivisions and, in proper cases, parks and open areas. The powers of a planning board and of a board of appeal under the Subdivision Control Law shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways; for securing safety in the case of fire, flood, panic and other emergencies; for ensuring compliance with the applicable zoning ordinances or bylaws; for securing adequate provision for water, sewerage, drainage and underground utility services and fire, police and other municipal equipment and streetlighting and other requirements were necessary in a subdivision; and for coordinating the ways in a subdivision with each other and with the public ways in the city or town in which it is located and with the ways in neighboring subdivisions...."

SECTION 2. Authority

These Rules and Regulations are adopted under the authority vested in the Planning Board of the Town of Carlisle by Section 81Q, Chapter 41 of the General Laws, as now existing or hereafter amended. In accordance with Section 81R, the Planning Board may in any particular case, where such action is in the public interest and not inconsistent with the intent and purpose of the Subdivision Control Law, waive strict compliance with its Rules and Regulations.

Note: Chapter 41, Section 81K et seq. of the General Laws is the enabling act for Municipal Planning and Subdivision Control.

**ARTICLE II
GENERAL**

SECTION 1. Definitions

The definitions of the Subdivision Control Law are incorporated herein (MGL, Chapter 41, Section 81-L), unless expanded or clarified in the following. Other terms and words and phrases not defined herein or in the Subdivision Control Law shall be construed according to the common and approved usage of the language, but technical words and phrases and such others as may have acquired a particular and appropriate meaning in law shall be construed and understood according to such meaning.

“AASHTO” shall mean American Association of State Highway and Transportation Officials.

“Applicant” shall mean the Owner (as hereinafter defined) of the land referred to in an Application filed with the Board or the Owner’s duly authorized representative.

“Board” shall mean the Planning Board of the Town of Carlisle.

“Collector Road/Street” shall mean a road designed to provide access into a particular neighborhood or region of the town. While there may be through traffic present, the majority of the traffic has its origin or destination within the neighborhood or local area. Such roads typically allow for travel speeds between 25 and 30 miles per hour. Examples: Rutland Street, Brook Street, Russell Street, Stearns Street

“Cul-de-Sac” shall mean a vehicular turnaround at the closed end of a Dead-end Street.

“Dead-end Road/Street” shall mean that portion of a street or street system to which access would be denied by closure of the street or street system at a single point.

“Definitive Plan” or “Definitive Subdivision Plan” shall mean a plan of Subdivision submitted pursuant to Section 81-T, Chapter 41 of the Massachusetts General Laws.

“Footpath” shall mean a meandering paved or compacted surface for footpath and bicycle travel, usually following the approximate alignment of a road/street, and generally within street rights-of-way.

“Local Road/Street” shall mean a road designed to provide access to and from the abutting properties and for traffic that has its origin or destination in the immediate neighborhood and not designed to accommodate through traffic. This includes both Dead-end Roads and also non-Dead-end roadways in a Subdivision. Such roads typically allow for travel speeds between 20 and 30 miles per hour. Examples: Carleton Road, Hutchins Road, Munroe Hill Road.

“Lot” shall mean an area of land in one ownership, with definite boundaries, used or available for use as the site of one or more buildings.

“Major Arterial Road/Street” shall mean a road which primarily serves traffic flows not originating directly along it. It carries traffic through town and/or provides a connection between one portion of town and another. Its design accommodates travel speeds of 35 miles per hour or greater. Examples: Bedford-Westford Roads and Concord-Lowell Roads.

“Minor Arterial Road/Street” shall mean a road similar to a Major Arterial Road/Street but with lower through traffic volumes, a higher percentage of traffic originating along it or along streets off of it and with travel speeds lower than 35 miles per hour. Examples: Acton Street, Cross Street, Curve Street, Maple Street, and South Street.

"Owner" shall mean the person holding the ultimate fee simple title to a parcel, tract, or lot of land as shown by the record of the appropriate Land Registration Office, Registry of Deeds, or Registry of Probate.

"Parcel" shall mean an area of land with definite boundaries that is not a "Lot."

"Parties in Interest" shall mean all abutters, owners of land directly opposite on any private or public street or way; and abutters to the abutters within three hundred feet (300') of the property line of the property subject to an Application submitted to the Board as they appear on the most recent applicable tax list, notwithstanding that the land of any such owner is located in another city or town, unless the Applicant has knowledge of any subsequent changes.

"Preliminary Plan" or "Preliminary Subdivision Plan" shall mean a plan of Subdivision submitted pursuant to Section 81-S, Chapter 41 of the Massachusetts General Laws.

"Road or Street" shall mean any present Town road or street, or any street that is planned for future Town acceptance, and includes the entire right-of-way.

"Roadway" is defined as that portion of the street which has been specifically improved by paving or graveling to permit vehicular travel.

"State Construction Standards" shall mean those specifications that are published by the Massachusetts Highway Department and are entitled Standard Specifications for Highways and Bridges, and including all supplements, updates, revisions or future editions covering substantially the same subject matter.

"Subdivision" shall mean a division of land into one or more lots in such a manner as to constitute "subdivision," as defined in Section 81L, Chapter 41, of the General Laws, as now existing or hereafter amended, and shall include resubdivision as therein provided, and, when appropriate to the context, shall relate to the process or the land subdivided.

"Subdivision Control Law" shall mean Sections 81K-81GG, inclusive, Chapter 41 of the Massachusetts General Laws, and the acts and amendments thereof or in substitution thereof.

"Way/Path" shall mean any ancient or abandoned route of travel not suitable for vehicular travel, and not an accepted road or street.

SECTION 2. Unapproved Subdivision Prohibited

No person shall make a Subdivision of any land within the Town of Carlisle, or proceed with the improvement or sale of lots in a Subdivision, or the construction of streets and ways, or the installation of any services therein, unless and until a definitive plan of such Subdivision has been submitted to and approved and endorsed by the Board as hereinafter provided.

All proposed lots within a Subdivision shall comply with the Zoning By-Laws of the Town of Carlisle.

SECTION 3. Procedures/Fees

A. Filing

Plans intended for review at a regular meeting of the Board shall be filed pursuant to the Subdivision Control Law. Plans shall not be considered submitted until the Board has determined that all required documentation has been received.

B. Fees

The Board may adopt and from time to time amend, without the need for a public hearing, a schedule of fees ("Fee Schedule") for the administration of these Rules and Regulations. Said Schedule is attached as Exhibit F and is incorporated herein by reference. No application or request shall be considered complete unless accompanied by the required fees.

(1) The Board may assign, as its agents, appropriate Town agencies or officials and may from time to time hire professional assistants to review plans and inspect improvements at the cost of the Applicant.

(2) When reviewing an Application for approval of, or when conducting inspections in relation to, any Approval Not Required Plan, Preliminary Plan or Definitive Plan, the Board may determine that the assistance of outside consultants is warranted due to the size, scale or complexity of a proposed project, because of a Subdivision's potential impacts, or because the Town of Carlisle lacks the necessary expertise to perform the work related to the approval. The Board requires that Applicants pay a "Project Review Fee" as set forth on the Fee Schedule, consisting of the reasonable costs incurred by the Board for the employment of outside consultants engaged by the Board to assist in the review of a proposed Subdivision or inspection of an approved Subdivision. The scope and cost of such consultant may exceed the normal costs generally covered by the Project Review Fee as set forth in the attached Fee Schedule. To cover the cost of these special reviews, an additional review fee deposit may be required by the Board at the time of submission or at any time during the review or inspection process.

(3) In hiring outside consultants, the Board may engage engineers, planners, lawyers, urban designers or other appropriate professionals who can assist the Board in analyzing a project to ensure compliance with all relevant laws, bylaws, and regulations. Such assistance may include, but not be limited to, analyzing an Application, monitoring or inspecting a project or site for compliance with the Board's decision or regulations, or inspecting a Subdivision during construction or implementation.

(4) Funds received by the Board pursuant to this sub-section 3(B) shall be deposited with the municipal treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Board without further appropriation. Expenditures from this special account shall be made only for services rendered in connection with a specific Subdivision for which a project review fee has been or will be collected from the Applicant. Accrued interest may also be spent for this purpose. Failure of an Applicant to pay any fee required hereunder shall be grounds for disapproving a Subdivision, or rescission of an approval of a Subdivision, or refusal to accept an application for a modification, amendment or a new Subdivision plan at the same location.

(5) At the completion of all procedures authorized or required under these Rules and Regulations, an accounting shall be made and any excess amount in the account, including interest, attributable to a specific project shall be repaid to the Applicant. A final report of said account shall be made available to the Applicant or the Applicant's successor in interest. For the purpose of this regulation, any person or entity claiming to be an Applicant's successor in interest shall provide the Board with documentation establishing such succession in interest.

(6) The Applicant shall reimburse the Town for all expenses incurred in connection with the review of the conceptual, Preliminary or Definitive Plan or Approval Not Required Plan and verification of compliance with the requirements of the Board relative to said plan and its execution in excess of the initial amount paid pursuant to this Section 3. Such expenses shall include, but are not limited to, the cost of services of engineers, surveyors and attorneys, the cost of publication of required public notices and the cost of recording and/or verifying the recording of the plan and associated documents.

SECTION 4. Plan Not Believed To Require Subdivision Approval

A. Submission of Plan

Any person who wishes to cause to be recorded in the Registry of Deeds or to be filed with the Land Court a plan of land and who believes that said plan does not require approval under the Subdivision Control Law must:

(1) File with the Planning Board at a regular or special meeting of said Board, with a copy to the Town Clerk, an application Form A, properly executed by the Applicant and in duplicate (see Exhibit A, attached);

(2) Submit, with Form A, one (1) mylar drawing of the plan and nine (9) contact prints thereof, prepared by a registered land surveyor, to the Board accompanied by the evidence necessary to show that the plan does not require approval under the Subdivision Control Law; and

(3) Pay to the Town of Carlisle, upon filing of said Form A, a non-refundable filing fee set forth on the Fee Schedule and, if requested by the Board, the Project Review Deposit.

B. Contents of Plan

(1) The dimensions of said plan shall be as required in "Plan Regulations of the Registry of Deeds" in effect at the time the plan is submitted to the Board. Each plan submitted to the Board shall contain at least the following:

(a) Identification of the plan by name and address of Owner, location of the land in question (with a true North arrow) and, if different, the name of the Applicant.

(b) The statement "Approval Under Subdivision Control Law Not Required", and sufficient space for the date and signatures of all members of the Board.

(c) The zoning classification of the land that contains the property and location of any zoning boundary lines or overlay districts that lie within the area, including the overlay Wetland/Flood Hazard District.

(d) The entirety of any lot having its boundaries changed must be shown.

(e) Notice of any decisions by any local, state or federal boards, commissions, departments or agencies, including, but not limited to, the Board of Appeals, the Conservation Commission and the Board of Health, including, but not limited to variances and exceptions regarding the land or any buildings thereon.

(f) Names of all abutters as they appear on the most recent applicable tax list, unless the Applicant has knowledge of any subsequent changes.

(g) Distance to nearest public or private way, or to other permanent monument.

(h) Location of existing buildings and improvements on the lot and their distance to the nearest property line and the setback and side and rear yard designation and the location of any easements (together with the recording information for such easements), wetlands, trails, Footpaths, water courses and other significant natural features.

(i) For each proposed lot, boundary lines, area, dimensions, the ellipse required by Section 4.1.3.3. of the Town of Carlisle Zoning Bylaws and, if applicable, the circle required by Section 4.1.2.4.3. of the Town of Carlisle Zoning Bylaws.

- (j) Signature and seal of the registered land surveyor who prepared the plan.
- (k) Assessor's map and parcel number for the lots shown on the plan.
- (l) A locus plan having a scale of one inch (1") equals two hundred feet (200') showing boundaries of the lots.
- (m) The plan should state that "No determination of compliance with zoning requirements has been made or intended," or words of similar import.

C. Board Determination

- (1) If the Board determines that the plan does not require approval, the Board or its authorized agent shall, without a public hearing and within 21 days of complete submission, endorse the Plan in the signature block required under Section 4(B)(1)(b). Such endorsement shall not be deemed to constitute any determination of compliance with the requirements of the Zoning By-Laws or the General By-Laws of the Town of Carlisle. The signed original of the plan shall be returned to the Applicant, and the Board shall notify the Town Clerk, in writing, of its action.
- (2) If the Board determines that the plan does require approval under the Subdivision Control Law, it shall give written notice of its determination to the Town Clerk and the Applicant. The Applicant may then submit a plan for approval as provided by the Subdivision Control Law and these Rules and Regulations, or he may appeal from such determination to the Superior Court in accordance with the Subdivision Control Law.
- (3) If the Board fails to act upon a plan submitted pursuant to this Section 4 within the time period described in 4(C)(1) above, the plan shall be deemed approved and a certificate to that effect shall be issued by the Town Clerk.

SECTION 5. Procedure For The Submission And Approval Of Conceptual And Preliminary Subdivision Plans

A. Conceptual Plan/Discussions

Prior to investing in extensive professional design efforts for Subdivision plans, it will often prove useful to review the proposed development of a parcel of land with the Board, in order that general approaches and potential problems can be freely explored. It is strongly recommended that such discussions take place prior to submission of a Preliminary Plan or a Definitive Plan. Pencil sketches, which need not be professionally prepared, will assist the discussion and might show some, but not all, of the information

shown on a Preliminary Subdivision Plan. The Planning Administrator and/or the Board will be available to discuss the general concept and alternatives to minimize negative development impact. It is also recommended that the Applicant present a Development Impact Report, as set forth on Exhibit C, attached hereto, as early as possible.

(1) Before submitting a Preliminary or Definitive Subdivision Plan for approval as hereinafter prescribed, any person may, at his/her own election, submit to the Board, for discussion purposes only, an informal conceptual plan, showing a proposed Subdivision in a general way. Such a plan shall not be designated as a "Preliminary Plan," nor given any approval by the Board (tentative or otherwise), unless it is prepared and submitted in accordance with the detailed requirements of statute applicable to a "Preliminary Plan" and with the pertinent requirements of these Rules and Regulations.

(2) The preparation and submission of such a conceptual plan is strongly recommended, except in the simplest cases of land subdivision. It affords the Applicant the opportunity to have the Board and staff review the proposed subdivision on an informal basis before the expenditure of time and money for detailed engineering work necessary to prepare either a Preliminary Plan or a Definitive Plan.

(3) The Board may, at the request of the Applicant, schedule a brief discussion of the conceptual plan with the Applicant and/or his/her representatives at a regular or special meeting. Such discussion will not constitute a public hearing, but the Applicant is encouraged to notify Parties in Interest so that the input of Parties in Interest may be considered at the conceptual stage of the plan. The Board also strongly suggests that the Applicant seek input from other Town boards, commissions and other Town officials, including, but not limited to, the Fire Chief at this point in time.

(4) The criteria upon which review, comment and discussion regarding informal plans and proposals shall include, in general, the design standards set out in Article III of these Rules and Regulations, generally accepted planning and engineering practice, and, specifically, the action recommendations contained in A Study Plan for the Town of Carlisle, as adopted by Town Meeting in April 1995 and as it may subsequently be amended.

B. Preliminary Subdivision Plan

(1) Purpose

A Preliminary Plan of a Subdivision may be submitted by the Applicant to the Board and to the Board of Health for discussion and tentative approval, modification, or disapproval by the Board. The submission of a Preliminary Plan will provide the means for the Applicant, the Board, Town agencies and Parties in Interest to discuss and clarify any of the issues of such Subdivision before a

Definitive Plan is prepared. Therefore, it is strongly recommended that a Preliminary Plan be filed in every case.

Prior to the discussion of the Preliminary Plan with the Board, the Applicant should discuss his or her plans with the Chief of the Fire Department, the Board of Health, the Conservation Commission, the Pedestrian and Bike Safety Advisory Committee and the Chief of Police. Pursuant to the Subdivision Control Law, the filing of a Preliminary Plan in the case of a non-residential Subdivision is required.

(2) Submission

Any person who wishes to apply for approval of a Preliminary Subdivision Plan shall file with the Board by hand delivery or registered mail the following:

- (a) Four (4) copies of a properly executed application Form B, attached as Exhibit B (and one copy to the Board of Health);
- (b) Four (4) contact prints of the Preliminary Plan in the form set forth below, plus eight (8) copies of the Preliminary Plan reduced to fit legibly on 11"x17" or 8 1/2"x11" sheets;
- (c) A non-refundable Preliminary Plan Application Fee as described on the Fee Schedule, which fee does not cover expenses incurred by the Board for professional services of engineers and attorneys in connection with review or inspection of the plan, associated documents and the Subdivision;
- (d) A Project Review Fee in the amount set forth on the Fee Schedule, which may be refundable pursuant to Section 3(B) above;
- (e) The Applicant shall also file, by hand delivery or registered mail, a notice with the Town Clerk stating the date of submission for such tentative approval of said plan, and accompanied by a copy of the completed Application.

(3) Contents of Preliminary Plan

The Preliminary Plan shall be drawn by a registered engineer or land surveyor in dark lines on a white background, at a suitable scale to fit on a single sheet and it should be properly identified as a Preliminary Plan. It should show sufficient information about the Subdivision to form a clear basis for discussion and for the preparation of a Definitive Subdivision Plan.

(a) The Preliminary Plan shall contain the following information:

- (i) Subdivision name, boundaries, north arrow, date, scale, and legend;
- (ii) The names and addresses of the Owners, the Applicant, the name of the engineer or surveyor, and their seals;
- (iii) The names of all Parties in Interest;
- (iv) The existing and proposed lines of streets, ways, easements, wetlands, and any public area within the Subdivision in a general manner;
- (v) The location, names and present widths of public or private ways bounding, approaching or near the Subdivision, together with the location of any Footpaths along such way(s);
- (vi) Existing and proposed drainage system, including existing adjacent natural waterways, in a general manner;
- (vii) Existing topography of the land, in a general manner;
- (viii) Approximate boundary lines and proposed lots, with approximate areas and dimensions;
- (ix) Estimates of the grades of proposed streets and profiles, when required by the Board;
- (x) Major site features such as existing stone walls, fences, buildings, large trees, historic sites, trails, wooded areas, bridges, outcroppings, swamps, wetlands and water bodies. Special attention should be given to noting physical features which define the boundaries of the Subdivision;
- (xi) A locus map at a scale of one inch (1") equals two hundred feet (200') showing the entire Subdivision;
- (xii) Evidence and certification of existing zoning and any easements (together with the recording information for such easements), covenants or restrictions applying to the area proposed to subdivided;

(b) During the discussion of the Preliminary Plan, the complete information required for the Definitive Plan and the financial arrangements will be developed.

(c) After the regular Board meeting at which a Preliminary Subdivision plan is first discussed, the Board may schedule a field trip to the site of the proposed Subdivision, accompanied by the Applicant or his or her representative. In order to facilitate the field inspection and review of the site of the proposed Subdivision, temporary staking shall be required along the centerline of all proposed roads in the Subdivision and in locations sufficient to enable the identification of the Lots and Parcels within the Subdivision in time for the field trip. The Board's strong preference is that the Applicant refrain from undertaking any material clearing of the site prior to the Board's field trip to enable the Board and the Applicant to fashion a Subdivision plan that will most likely further the goals set forth in Article III, Section 1(B) of these Rules and Regulations.

(4) Preliminary Plan Action

(a) The Planning Board shall act on the Preliminary Plan within forty-five (45) days of its submission. The Board may approve said Plan, with or without modifications, or disapprove said Plan, stating reasons for such disapproval. Approval, if given, does not constitute approval of a Subdivision. Notice of the Board's action shall be given to the Town Clerk and sent to the Applicant by certified mail.

(b) To ensure that all abutters have the opportunity to discuss any potential problems that may arise through the development of such a Subdivision, before approval, modification and approval, or disapproval of the Preliminary Plan is given, a public meeting shall be held by the Board. A notice of the time and place of the public meeting and of the subject matter to be discussed, sufficient for identification, shall be given by the Board at the expense of the Applicant by advertisement in a newspaper of general circulation in Carlisle not less than ten (10) days before the day of such meeting, and by the Applicant mailing a copy of such advertisement by first class mail to the property owner and to all abutters.

(c) Any Plan submitted by an Applicant to the Board which does not conform to the requirements hereof pertaining to a Preliminary Plan shall not be so designated, nor shall such Plan be given approval by the Board. The submission of the Preliminary Plan for examination by the Board shall not be deemed a submission of a Definitive Plan of a Subdivision for approval by the Board, and the action of the Board on such Preliminary Plan shall not prejudice its action on the Definitive Plan.

SECTION 6. Definitive Subdivision Plan

Pre-application consultations between the Applicant and the professional staff of the Board is recommended. In addition, as stated in Section 5 above, submission of conceptual and Preliminary Plans are also recommended. When a Preliminary Subdivision Plan has been

completely and properly submitted within the past seven (7) months, the Definitive Subdivision Plan shall be substantially the same as the Preliminary Subdivision Plan and shall reflect all modifications required by the Board and the Board of Health and/or the Conservation Commission, or said Definitive Subdivision Plan shall be considered a new submittal.

A. Submission of a Definitive Plan

(1) Any person who submits a Definitive Plan of a Subdivision to the Board for approval shall file by hand delivery or registered mail a notice with the Town Clerk stating the date of complete submission for such approval, accompanied by a copy of the completed application, and shall deliver to the Board the following:

(a) Twelve (12) copies of a properly executed application Form C (see Exhibit D, attached hereto).

(b) Twelve (12) copies of the Development Impact Report (see Exhibit C).

(c) A non-refundable Application Fee as set forth on the Fee Schedule. The Application Fee does not cover expenses incurred by the Board for professional services of engineers and attorneys in connection with review or inspection of the Definitive Plan, associated documents, and the Subdivision (see Article I, Section 3(B)).

(d) A Project Review Fee as set forth on the Fee Schedule.

(e) The original drawings of the Definitive Plan, prepared by a registered engineer and a land surveyor, and eight contact prints thereof, with contents specified in Section 6(B).

(f) Sixteen (16) reduced prints of the Definitive Plan on 11" x 17" or 8 1/2" x 11" sheets. Reduced prints will be referred by the Board to other Town officials and committees for review.

(g) A statement from the Owner that he will either retain the fee title in the streets shown on the Definitive Plan or reserve to himself and his successors, heirs and assigns an easement in said streets for all purposes for which streets are used in the Town of Carlisle, and upon construction of the streets and installation of services will, at the request of the Town, grant to the Town the fee (or an easement for all purposes for which streets are used) in such streets; and will, at the request of the Town, grant to the Town any drainage or other easements shown on the plan. In order to retain the fee in the street, the Owner must clearly define lot lines when selling individual lots, to make clear that the lot stops at the street layout.

(h) A list of Parties in Interest certified by the Assessors.

- (i) Certification by the Board of Health that a copy of the Definitive Plan has been submitted to the Board of Health pursuant to M.G.L. Ch. 41, Section 81-U.
- (j) Twelve (12) copies of a written list of any requested waivers with reasons why those waivers would permit a superior design, would be in the public interest, and would not be inconsistent with the purpose and intent of the Subdivision Control Law.
- (k) In the case where the Applicant is a person other than the Owner(s) of the property, the Applicant shall obtain the Owner's signature on the Application indicating that the Owner has knowledge of and consents to the Application. If the Applicant is acting in the name of a trust, corporation, partnership or company, an authorizing vote shall be attached.
- (l) A letter authorizing the Town to enter on the Subdivision to complete the streets and ways, and services, including, but not limited to, wells, waste disposal and other systems, and other aspects of the plan for which the Applicant seeks approval, if the Applicant does not complete them according to its obligations.
- (m) A list of mortgage holders which shall be kept current during the period of development.
- (n) Lists and copies of variances, permits, and other special permits previously issued by the Town boards or commissions or by any state and/or federal agencies for the subject property, and a list of any variances or permits required to complete the proposed Subdivision. This list should include, but not be limited to, any permits from the Board of Health, the Conservation Commission, the Board of Appeals, the Board, the State Department of Public Works, the Army Corps of Engineers, the State Department of Environmental Protection, and certificates issued by the Secretary of Environmental Affairs under the Massachusetts Environmental Policy Act.
- (o) A copy of the most recently recorded plan(s) and deed(s) for all the land included in the Subdivision, bearing the book and page numbers and the date(s) of recording or registration.
- (p) Calculations for determining the amount of earth to be removed or the amount of filling to be brought to the site prepared by and showing the seal of a registered professional engineer.

The date of receipt by the Board of all materials required in Article I, Sections 6(A) and (B) and otherwise in compliance with these Rules and Regulations shall constitute the effective date of submission of the Definitive Plan.

B. Contents of a Definitive Plan

The Definitive Plan shall be prepared by a registered professional engineer and a professional land surveyor registered in Massachusetts and shall be clearly and legibly drawn in waterproof drawing ink on linen, mylar, or the equivalent. The plan shall be at a scale of one inch equals forty feet or at such other scale as the Board may require to show details clearly and adequately. Sheet sizes shall be 24" x 36". If multiple sheets are used, they shall be numbered and accompanied by an index sheet drawn to a 1"=200' scale showing the entire Subdivision and listing the title and page number on each sheet.

(1) The Definitive Plan shall contain the following information:

(a) A title sheet stating the name of the Subdivision, date including all revised dates, scales, north arrow, names and addresses of the Owner, Applicant, designer or engineer, all arranged in a title block in the lower right-hand corner of each sheet comprising the Definitive Plan.

(i) The official date of the Preliminary Plan submission, if any, shall be noted on the title sheet.

(ii) The general layout of the Subdivision drawn to a scale suitable to fit the entire development onto the title sheet shall be placed on the title sheet showing existing and proposed approximate layouts of streets and ways, lot boundary lines, lot numbers, existing street names and identification of proposed streets and ways, areas to be developed, any open space or buffer or no build areas, other common areas and areas to be left undeveloped within the Subdivision boundaries.

(iii) An index of the Definitive Subdivision Plan shall be placed on the title sheet.

(iv) The number of lots, the acreage of each lot and the percentage of each lot covered by a building or structure and the percentage of any wetlands as discussed in Article I, Section 6(B)(1)(l) below shall be listed on the title sheet.

(b) A bar scale shall be provided on all sheets.

(c) The sheet number and the total number of sheets is to be noted in the lower right-hand corner of the title sheet on each sheet (example: Sheet 3 of 7). All sheets shall have the current revision date for ease of reference.

(d) Where the Owner also owns or controls unsubdivided land adjacent or across the street from that shown on the Definitive Plan, the Applicant shall submit a sketch plan showing a possible or prospective

street layout and the present drainage, natural and constructed, for such adjacent land, unless such plan has already been submitted to the Board with a Preliminary Plan.

(e) Boundary lines of bordering adjacent land or of land across an adjoining street from property being subdivided and names of Parties in Interest.

(f) Existing and proposed streets, ways, roads, guard rails (including details of the type and specifications), sidewalks, fire lanes, Footpaths, trails, cart paths, woodspaths, easements (with recording information), and any public or common areas within or adjacent to the subdivision. The names of proposed streets (a) shall not conflict with existing road names, unless they are direct extensions of an existing roadway; and (b) shall be appropriate to the site, such as, but not limited to, names of Native Americans, early settlers, or natural features associated with the site.¹

(g) Existing site features, which include but are not limited to: stone walls; buildings or other improvements or structures; bridges; dams; wells; waterways; prominent rock outcroppings; large erratic boulders; ancient cellar holes; historical landmarks or structures or buildings; flood plains; drainage courses; ponds; any species occurring on the site that is listed by the Massachusetts Natural Heritage Program as endangered, threatened, and/or of special concern, or as rare native plants; underground and above ground storage tanks; waste water disposal systems; archaeological sites; scenic vistas; and any paved areas. Indicate whether any existing structures or other improvements will remain or be removed. With respect to any water bodies and water courses, the Applicant shall include the depth of the water and the direction of flow within or adjacent to the proposed Subdivision.

(h) Location of any zoning boundary lines that lie within the area, including the overlay Wetland/Flood Hazard District, and the zoning classification of the land that contains the Subdivision.

(i) Existing topography of the entire Subdivision at a two-foot contour interval or as otherwise required by the Board, and at one foot (1') intervals within a wetland/flood hazard district if any construction will occur therein. If no construction is to occur in a wetland/flood hazard district two foot (2') contours are acceptable, unless otherwise required by the Board.

¹ A useful resource is the map of Carlisle with historical names, available in the Planning Board files

(j) Location, names, direction and present widths and grades of public and private ways bounding, approaching or within reasonable proximity of the Subdivision, and the location of any Footpaths along any such way.

(k) Location of all permanent monuments, properly identified as to whether existing or proposed.

(l) All the wetlands and wetland buffer area boundaries and resource areas and their associated buffer zones as defined in the Wetlands Protection Act, M.G.L., Chapter 131, Section 40, and the Carlisle Wetlands By-Laws and boundaries subject to the Rivers Act, M.G.L., Chapter 131, Section 40 and all 100 and 500 year flood plain boundaries.

(m) Footprint and area of all existing buildings and structures within the Subdivision. In order to assist the Board to conceptualize the proposed Subdivision, the Applicant, for informational purposes, shall provide an overlay showing the location of the proposed structures, buildings, septic systems and the location of the proposed driveways. The location of such proposed improvements shall not be binding and shall not become a part of the Definitive Subdivision Plan.

(i) If requested by the Board, the proposed lot grading shall be shown on the Definitive Plan so that the proposed storm water management system can be properly evaluated. The grading for the driveway(s) and their relationship to the intersecting street or way shall be shown.

(ii) Dimensions for buildings and structure setbacks; distances between buildings; setbacks from the boundaries of each lot; building heights and all other dimensions necessary to easily determine compliance with the dimensional requirements of the Zoning By-Laws shall be included. Dimensions and setbacks of any accessory buildings, and any areas intended for (outdoor) storage with purposes identified.

(n) All proposed Lots shall be designated numerically and in sequence. The Applicant shall be consistent in its labeling of Lots and Parcels within the Subdivision.

(i) For each proposed lot: area, dimensions, the ellipse required by Section 4.1.3.3 of the town of Carlisle Zoning Bylaws and, if applicable, the circle required by Section 4.1.2.2.4.3 of the Town of Carlisle Zoning Bylaws.

(ii) The entire area of each Lot within the Subdivision shall be shown on a single sheet with the Subdivision lot lines shown.

(o) Subdivision boundaries with bearings and distances. The boundaries of the Subdivision and all street rights-of-way shall be drawn with 1.2 mm wide lines. Lot boundary lines which are internal to the Subdivision and not common to a street right-of-way shall be drawn with 0.3 mm wide lines.

(p) Proposed location and type of system of storm drainage, including any appurtenances, including notes on the construction materials of any pipes, culverts, catch basins or any other system component. Sufficient information relating to placement of the drainage system components (roaming invert elevations, pipeslips, amount of cover, etc.) shall be shown so that the operation of the system can be evaluated. Any retention and/or detention ponds intended to be constructed shall be shown fully dimensioned.

(i) Detail drawings of catch basins, gas trap/oil separation catch basins, headwalls, manholes, box culverts, bridges, retaining walls, and other structures to be constructed in connection with the drainage system designed in accordance with good engineering practices acceptable to the Board shall be shown.

(q) Sufficient data to determine readily the location on the ground, the compass bearing, and length of every street and way line, lot line and boundary line. (All bearings shall be referred to the true meridian).

(r) Suitable space to record the action of the Board and the signatures of the members of the Board (or officially authorized person) on each sheet of the Plan and to record or make reference to the decision or Certificate of Action of the Board, any restrictive covenants given under M.G.L. Chapter 41, Section 81-U, or any amendments thereto, and any conditions required by the Board of Health.

(i) On each Definitive Plan to be recorded, the following statements shall be noted:

Where the Applicant elects to secure the construction of ways and the installation of municipal services by a covenant, there shall be a notation lettered on the plan, above the space for signatures, as follows:

Approved [date] subject to the provisions set forth in a covenant, executed [date], to be recorded/registered herewith.

(s) If applicable, proposed boundaries of each development phase clearly showing the specific limits of construction for each phase and

detailing the work to be accomplished in each phase; interim curbing, pavement and landscaping shall be shown as needed between phases.

(t) Location of storage tanks for fuel or other chemicals or hazardous materials or waste storage, including the tank types, capacities, age and condition.

(u) Location and type of existing and proposed water services including wells. The proposed location of each well must be shown in addition to its setback from any building, structure or waste water disposal system.

(i) Location of subsurface test pits and percolation tests as required by the Board of Health and a log of the deep test holes and percolation tests for the entire site as witnessed by a representative of the Board of Health.

(ii) The Board may require subsurface soil information to evaluate the adequacy of the roadway design. Such information may include test pits, borings, or probings along each proposed roadway, primarily at locations such as cut sections, areas of questionable foundation material, and areas of potentially high groundwater elevations. The requirement for and location of test points shall be established by the Board during the Preliminary Plan approval process. If a Preliminary Plan did not precede a Definitive Plan submittal, test pit data will be required at locations every three hundred fifty (350) feet along roadway centerlines or a minimum of two equally spaced test pits along the proposed roadway, plus areas where the proposed grade is three feet or more below existing grades, and probings will be required along the centerline and sideline at twenty-five (25) foot intervals where the roadway crosses wetlands or other areas of unsuitable material.

Borings and test pits shall be to a depth at least four feet below proposed finished grades and shall be of sufficient depth to determine the extent of unsuitable materials. The logs submitted to the Board shall indicate their location and ground elevation, a classification of the soil strata by depth, depth at which groundwater or rock is encountered, if any, and the date of the test.

Probings shall show the depth of unsuitable material and shall indicate the existing ground elevation. Locations of each probing shall be indicated with respect to the roadway stations.

All soil information to be submitted to the Board under this subparagraph shall be submitted by a soil evaluator approved by the Massachusetts Department of Environmental Protection.

(v) Location of all fire hydrants, fire plugs, or cisterns on the site, or distance to the closest ones off-site. If no fire plugs or cisterns are located within the site, then a note shall appear clearly explaining how the Applicant will provide fire protection to the site. Fire hydrants, fire plugs, and all cisterns must meet the requirements of the Carlisle Rules and Regulations governing the Subdivision of land and any rules or regulations promulgated by the Carlisle Fire Department and their final approval shall be in writing and on file with the Board from such agencies prior to approval of the Definitive Plan. The location of any proposed fire alarm boxes or other warning systems and any proposed fire lanes shall be clearly shown and identified. Any underground conduit for fire alarm connection shall be shown.

(w) The location and type of any other underground utilities, including, but not limited to, electric, gas, telephone or cable television services. Any emergency power facilities shall also be shown.

(x) Storm drainage runoff calculations used to show storm water drainage design shall be prepared by and display the seal of a registered professional engineer.

(i) These calculations shall be based on the rational formula (as described in Seelye's Design Data Book for Civil Engineers, page 18-02, revised Third Edition), based on a ten-year and 100 year expectancy period, or the Soil Conservation Service TR-55 Method using a 24 hour storm, Type III rainfall distribution and a 10 year expectancy period. A comparative drainage analysis comparing pre and post development conditions should also be provided. The analysis should show that the peak rate of runoff in the post development condition does not exceed predevelopment conditions in the 2, 10, 25 and 100 year storm events. The calculations should be performed using the TR-55 method.

Pipe sizes shall be no less than 12" in diameter. Roadway cross-culverts shall be designed using a 100 year expectancy period. The calculations must contain a written summary explaining the rationale of the design so that a lay person can understand the basic design approach and its validity to the site in question. Furthermore, the calculations should be fully documented, including copies of charts or other reference sources to make review easier. These calculations shall be used to determine all drainage structures and pipe sizes.

(ii) The drainage calculations shall include design criteria, pre-and post-drainage areas, and other information sufficient for the Board to verify the adequacy of any proposed drain, swale, drain

field, culvert, bridge or catch basin. Said calculation shall be made separately for each drainage facility, showing its location, the total upstream drainage area, the underlying soil types, and the flow paths for the times of concentration, the design runoff, facility size, slope and capacity and the velocity of the water through it.

(y) An Erosion and Sedimentation Control Plan following the “Guidelines for Soil and Water Conservation Urbanizing Areas of Massachusetts,” USDA-SCS and “Erosion & Sediment Control and Site Development”, USDA-SCS, latest edition.

(z) Location and purpose of all existing and proposed easements with sufficient data, including lengths, bearings, and curve data, necessary to determine their exact location, together with the recording information for existing easements.

(aa) Soil types as determined by the Natural Resource Conservation Service (formerly the Soil Conservation Service).

(2) The following plans shall also be provided:

(a) A landscape plan, prepared by a landscape architect or designer, showing how the proposed Subdivision shall preserve components of the Town’s appearance of rurality as set forth in A Study Plan for the Town of Carlisle dated April, 1995, as amended, and preserves or creates areas of open meadow, woodlands, water bodies, valuable habitat for identifiable species of fauna and flora, any artifacts of historic value or scenic trails, and vistas or buffer areas. The landscape plan shall include the following:

(i) Existing vegetation to be retained and landscape treatments planned for the site.

(ii) A planting table of all new plantings, if any, with the botanical and common name of each species, its height/spread at planting and at maturity, and the quantity intended to be planted, along with the symbols used to representative the plants on the Plan.

(iii) A detail of the typical tree planting, and, if applicable, a tree well.

(iv) The limits of work beyond which no disturbance during construction will be permitted.

(v) The perimeter of any existing dense wooded areas on the site; existing wooded areas intended for preservation; and the location, size and proposed fate of any existing trees larger than

eight inches (8") in diameter measured at four feet (4') above ground that are within the proposed roads, as well as such trees within (A) 25 feet of the sideline of the proposed roads, or (B) 10 feet beyond the edge of any cut or fill for the roads, whichever is a greater distance.

(vi) Planting plans showing the location, size and species of street trees and shrubs to be planted within the right of way of the proposed roads and in the center of any Cul-de-Sacs.

(vii) Planting plan showing location, size, species, and wetland status of plants to be planted in detention basins, created wetlands, vegetated swales and other vegetated stormwater management facilities.

(b) A locus plan at a scale of 1"=200' showing the proposed layout of the lots and boundaries of the Subdivision with ownership of abutting properties indicated.

(c) A locus plan showing an area a minimum of one (1) mile diameter and a scale of 1"=800' showing the proposed streets in relation to the existing private and public ways, roads and streets, buildings, brooks, streams, rivers and other landmarks shown with sufficient clarity to show the relationship of the Subdivision to the community, its facilities and major features.

(d) A street and right-of-way layout plan prepared by a registered professional engineer, which shall clearly label and name every item and feature shown thereon, shall be drawn on separate sheets, shall be based on USC&GS bench mark elevations, and shall contain the following information:

(i) Separate layout plan for each proposed road and roadway, at a horizontal scale of one (1) inch equals forty (40) feet (1"=40'), showing:

(1) Locations and measurements of all exterior lines, centerlines, points of tangency, length of tangents, length of curves, intersection angles, radii of curves, sidewalks and planting strips, and permanent monuments and bench marks. Bench marks shall be shown every five hundred (500) feet along proposed rights-of-way, and installed prior to fine grading of the gravel course.

(2) Locations and measurements of all lot lines, buildings, Footpaths, driveways, trees, shrubbery and other vegetation that may impact sightlines and visibility at

corners and intersections, public and private rights-of-way and roadways, and other features within forty (40) feet of the right-of-way.

(3) Locations and measurements of all drain lines within rights-of-way, together with their appurtenances.

(4) Locations and measurements of center and side lines of all roadways, rights-of-way, and curb lines for two hundred (200) feet either side of each existing intersecting street, with elevations every twenty-five (25) feet.

(ii) Directly above or below the layout plan of each proposed roadway, a profile plan of the proposed street at a horizontal scale of one (1) inch equals forty (40) feet ($1'' = 40'$) and a vertical scale of one (1) inch equals four (4) feet ($1'' = 4'$), showing:

(1) Existing center lines in fine black solid line.

(2) Existing right side lines in fine dashed line.

(3) Existing left side lines in fine black dotted line.

(4) Proposed center lines in heavy black line.

(5) Proposed grade elevations at the beginning and end of rights-of-way and at fifty (50) foot stations, except on vertical curves where they shall be shown at twenty-five (25) foot stations and at the point of vertical curvature (PVC) and at the point of vertical tangency (PVT), for all center and side lines.

(6) Rates of gradient for all center and side lines, and for all drain lines.

(7) Vertical locations and measurements of all drain lines, their appurtenances, and other utilities, as well as required new waterways. Sizes of all pipes shall be shown, as well as inverts of all pipes at each manhole and catch basin, together with rim elevations of all manholes and catch basins.

(8) Calculated high and low points of vertical curves.

(9) Vertical curve lengths and angle of deflection of intersecting tangents expressed in percent and the calculated K value.

(10) For center lines only, elevations of intersections of tangents, fifty (50) foot stations, rates of slope of vertical curves, and data pertaining thereto in figures calculated for each twenty five (25) foot station.

(iii) Profiles of all easements at a horizontal scale of one (1) inch equals forty (40) feet (1" = 40') and vertical scale of one (1) inch equals four (4) feet (1" = 4'), or such other scale as may be approved by the Board prior to submittal of the application.

(iv) Cross section(s) of each right-of-way and roadway, properly located and identified by station number, at such intervals along the right-of-way as will adequately indicate any variations in its cross section. The cross sections shall show sidewalks, utilities, depth of utilities, depth of gravel, crown of the street, thickness and composition of surface materials, and slope from the side of the street to the property line.

(v) Wherever the pavement is not centered within the right-of-way, the geometry of both the centerline of the pavement and the centerline of the right-of-way must be shown.

(3) The Applicant shall provide the Board any additional information required by the Board if it finds that such information is necessary to properly act upon the Application.

C. Notice to Town Clerk.

Every person submitting a Definitive Plan to the Board for its approval shall, pursuant to the Subdivision Control Law, file written notice that he or she has submitted such a Plan with the Town Clerk, by hand delivery or by registered mail, postage prepaid. If the notice is given by hand delivery, the Clerk shall, if requested, give a written receipt to the person who delivered such notice. The date of filing with the Board shall be certified on such notice by the Board or its authorized representative.

D. Review by Board of Health

Pursuant to M.G.L. Ch. 41, Section 81-U of the Massachusetts General Laws, at the time of filing of the Definitive Plan, the Applicant shall also file with the Board of Health copies of the Definitive Plan. The Board of Health shall within forty-five (45) days after filing of the plan submitted pursuant to M.G.L. Ch. 41, Section 81-O report to the Planning Board in writing, the approval or disapproval of the plan. Failure of the Board of Health to report shall be deemed approval by the Board of Health. (Board of Health approval of the plan is not equivalent to a building permit approval for a site within the limits of the plan.) If the Board of Health disapproves said plan, it shall make specific findings as to which, if any, of the areas shown on such plan cannot be used for building

sites without injury to the public health, and include such specific findings and the reasons therefor in such report, and, where possible, shall make recommendations for the adjustment thereof.

E. Other Town Officials

Before approval of the Definitive Plan is given, the Board may obtain appropriate checks on the engineering and survey information shown on said plan and written statements that the proposed improvements shown are laid out to the satisfaction of the official, and for the facilities, below:

- (1) The planning consultant(s) or engineer(s) designated by the Board as to the design of the street system, location of the easements and design of the sewerage, water and drainage systems, including appurtenances.
- (2) The Tree Warden as to location, size and species of the street trees.
- (3) The Fire Chief for location of fire-fighting appurtenances and other emergency appurtenances and access issues relating to fire fighting and other emergency services.
- (4) The Police Chief as to the street systems as they relate to security and circulation and safety of vehicular and pedestrian traffic.
- (5) The Superintendent of the Public Works Department as to issues related to the maintenance of roadways, drainage and utilities.
- (6) The Pedestrian and Bike Safety Advisory Committee as to issues relating to Footpaths.
- (7) Any other appropriate Town officials or committees.

The Board may require the Applicant to obtain the written statements of the appropriate official(s) for subsections (E)(2)-(6) above.

F. Field Inspection

After receipt of a complete Application, the Board may schedule a field inspection of the site of the proposed Subdivision, accompanied by the Applicant or his or her representative. In order to facilitate the field inspection and review of the site of the proposed Subdivision, temporary staking shall be required along the centerline of all proposed roads in the Subdivision in locations sufficient to enable the identification of the Lots and parcels within the Subdivision in time for the field trip. The Board's strong preference is that the Applicant refrain from undertaking any material clearing of the site prior to the Board's field trip to enable the Board and the Applicant to fashion a Subdivision plan that will most likely further the goals set forth in Article III, Section 1(B) of these Rules and Regulations.

G. Submission of Additional Information

All additional information submitted after the initial Application shall be submitted to the Board at or before the public hearing. At least eight (8) copies of any additional materials submitted shall be given by the Applicant to the Board.

H. Public Hearing

Before approval, modification and approval or disapproval of the Definitive Plan is given, a public hearing shall be held by the Board. Notice of such hearing shall be given by the Applicant at the Applicant's expense by publication in a newspaper of general circulation in the Town of Carlisle once in each of two (2) successive weeks, the first such publication to be not less than fourteen (14) days prior thereto. A copy of said notice shall be mailed by the Applicant to all Parties in Interest. The Applicant shall provide the Board's representative an opportunity to review the proposed publication and approve the proposed newspaper of general circulation. Applicant shall provide to the Board's representative, at least one (1) business day before the date of the scheduled public hearing, the certified mail return receipts as evidence of said Notice, a copy of the notice date stamped by the Town Clerk, and one set of newspaper tear sheets containing the published Notice.

I. Approval, Modification or Disapproval

Where a Preliminary Plan has been acted upon by the Planning Board or where at least forty-five (45) days have elapsed since submission of the Preliminary Plan, after the public hearing but within ninety (90) days of submission of the Definitive Plan, or such further time as may be agreed upon at the written request of the Applicant (notice of which extension of time having been filed with the Town Clerk), the Board shall take final action thereon. It may approve, modify and approve, or disapprove said plan, as provided by statute.

Where a Preliminary Plan has not been submitted or where forty-five (45) days have not elapsed since submission of the Preliminary Plan, after the public hearing but within one hundred and thirty-five (135) days of submission of the Definitive Plan, or such further time as may be agreed upon at the written request of the Applicant (notice of which extension of time having been filed with the Town Clerk), the Board shall take final action thereon. It may approve, modify and approve, or disapprove said plan, as provided by statute.

The action of the Board shall be by vote of a majority of all of the members of the Board.

(1) Certificate of Approval

Notice of the action of the Board shall be certified and filed with the Town Clerk and sent by registered mail to the Applicant. If the Board modifies or disapproves said plan, it shall state in its vote the reasons for its action. The conditions of approval of a Definitive Plan including any waivers of the Rules and Regulations granted by the Board and the conditions of any applicable special permits or variances shall be printed on a recordable sheet of the approved Definitive Plan and shall be reviewed and approved by the Board prior to endorsement. The sheet containing said conditions and waivers shall be subsequently recorded as part of the Definitive Plan. Final approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by the signatures of a majority of the Planning Board (or by the signature of any person officially authorized by the Board) but not until the statutory twenty (20) day appeal period has elapsed following the filing of the certificate of the action of the Board with the Town Clerk and said Clerk has Certified that no appeal has been filed. After the Definitive Plan has been approved and endorsed, the Applicant shall furnish the Board with four (4) prints thereof, to be distributed by the Board to the Board's consulting engineer, the Conservation Commission, the Board of Assessors, and the Board file.

(2) Final approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of streets within a subdivision, nor entitle the streets to such acceptance.

J. Modification, Amendment, Rescission

The Board, on its own motion or on the petition of any Parties in Interest, shall have the power to modify, amend or rescind its approval of a plan of a Subdivision or to require a change in a plan as a condition of its retaining the status of an approved plan, after due notice and opportunity for the Owner to be heard in accordance with the Subdivision Control Law.

SECTION 7. Performance Guarantee

A. Condition of Endorsement

Before endorsement by the Planning Board of an approved Definitive Plan, the Applicant shall agree to complete said Definitive Plan in accordance with these Rules and Regulations, such completion to be secured by one, or in part by one and in part by another, of the following methods which may from time to time be elected by the Applicant:

(1) Final approval with bonds or surety

(a) The Applicant shall either file a surety company performance bond, a deposit of money or negotiable securities in an amount determined

by the Board to be sufficient to cover the cost of all or any part of the improvements required hereunder. Negotiable securities shall be from an institution which, in the opinion of the Board, is in sound financial condition. Such bond or security, if filed or deposited, shall be subject to approval as to form and matter of execution by Town Counsel and as to sureties and negotiable securities, by the Board, and shall be contingent on the completion of such improvements as set forth herein.

(b) If the Applicant elects to file a performance bond rather than to secure the performance of the completion of the Definitive Plan as hereinafter provided in Section 7(A)(3), the Board's agent shall prepare estimates of the cost of performing the various items of required work to be done. The amount of any such security shall bear a direct and reasonable relationship to the expected costs necessary to complete the subject work, plus a 20% contingency of the expected costs to guard against unexpected costs and effects of inflation. The estimate shall reflect the cost for the Town to complete the work as a public works project which may necessitate engineering, inspection, legal and administrative fees, additional staff time and public bidding procedures. The amount of the security shall be annually updated by the Applicant to cover current prices.

(2) Final approval with lender's contract

Following the recording of a first mortgage covering the premises shown on the Plan or a portion thereof given as security for advances to be made to the Applicant by the lender, the Board may, at its option, release lots from the operation of the covenant given pursuant to clause (3) below, without receipt of a bond or deposit of money upon delivery to the Planning Board of an agreement with the Planning Board, which agreement shall be executed by the Applicant and the lender and shall provide for the retention by the lender of sufficient funds otherwise due the Applicant to secure the construction of streets and ways and the installation of services and other improvements and amenities in conformity with the regulations of the Board. The agreement shall also provide for a schedule of disbursements which may be made to the Applicant upon completion of various stages of the work, and shall further provide that in the event the work is not completed within the time set forth in the application, any funds remaining undisbursed shall be available for completion. Unless the lender executing such agreement is considered by the Town Treasurer to be in sound financial condition, the Board may reject such agreement as insufficient to serve as a performance guarantee.

(3) Final approval with covenant

The Applicant shall file a covenant in form and substance satisfactory to the Board, running with the land, executed and duly recorded by the owner of record, whereby such ways, services and other improvements and amenities as required hereunder, not covered by bond, deposit or contract under clauses (1) or (2) hereof, shall be provided to serve any Lot before such Lot may be built upon or conveyed other than by mortgage deed.

B. Request for Release of Performance Guarantee

(1) Before the Board will release the interests of the Town in a performance bond or deposit (or, in the case of approval, issue a release of covenant), the Applicant shall: file with the Board a request for release accompanied by the following:

(a) Certified copy of the layout plan of each street in the Subdivision (as built or, in the case of approval of a covenant, of the street or streets serving the lots for which a release is desired). Certification shall be by a registered professional engineer or registered land surveyor and shall indicate that streets, including all lot bounds, storm drains, sewers, water mains and other utilities and their appurtenances, have been constructed in accordance with the approved Plan and the Board's requirements and are accurately located as shown thereon and that said utilities are in good working order. The registered professional engineer or registered land surveyor shall also certify that the grades of all the lots have been established as shown on the grading plan and that said grades have been established so as not to create adverse drainage patterns on to adjoining lots or streets.

(b) An "as-built" plan, together with notations of all deviations from the originally-approved and/or the Record Plan (as defined in section 9(A)(1) below) in the form of revised sheets of said plan and supplemental sheets as required. The as-built plan shall also include the location of all improvements within the Subdivision, all drainage facilities, underground utilities and a street acceptance plan prepared in conformity with the rules and regulations of the Register of Deeds of the Commonwealth of Massachusetts. The as built plan shall also show all improvements that have been built or located (whether by the Applicant or otherwise) within the rights-of-way or easements shown on the Record Plan.

(c) Written evidence satisfactory to the Board that the trees and other plantings required by these Rules and Regulations have been completed satisfactorily and that such plantings have been exposed to one (1) winter season (November 15-April 30) and that damaged plantings, if any, have been replaced. The Board shall coordinate confirmation of this matter with the Tree Warden.

(d) Written evidence satisfactory to the Board that the binding course on the roadways was exposed to one (1) winter season (November 15-April 30) prior to the application of the wearing course, and that the completed street and drainage and other utilities and improvements have been exposed to the natural elements and weather conditions during one (1) additional winter season (November 15-April 30) without substantial change, or that damage, if incurred, has been repaired.

(e) The request for release shall be accompanied by evidence that the fee interest or easement in the road has been transferred to the corporate entity created pursuant to Article II, Section 9(A)(3).

(2) The Board will release from any covenants only those Lots for which installation of ways and services has been completed in accordance with the Rules and Regulations set forth herein.

(3) Even though all improvements covered by the performance guarantee may have been completed, the Board may delay the release of the performance guarantee if completion of construction of any remaining undeveloped or partially developed Lot or Lots proves a substantial risk of damage to the Subdivision improvements, and/or if other obligations of the Applicant in connection with the Subdivision approval have not been fulfilled.

(4) A Professional Civil Engineer retained by the Applicant shall certify that all construction was executed in conformance with the Subdivision Regulations and with all requirements agreed upon as a condition to plan approval prior to release of any performance guarantee.

SECTION 8. Conservation Restriction

To ensure that the intent of a proposed perpetual Conservation Restriction pursuant to M.G.L. Chapter 184, Sections 31-33 is carried out during the period required to obtain necessary state approvals, an Applicant who proposes to perpetually restrict land for open space or trail use shall submit to the Planning Board an application that includes:

A. The proposed perpetual Conservation Restriction with signature lines for necessary governmental approvals pursuant to M.G.L. Chapter 184, Section 32; and

B. A form of recordable interim restriction in favor of the Town of Carlisle, acting by and through its Conservation Commission, which restriction complies with the provisions of M.G.L. Chapter 184, Section 26, which shall include:

(1) Statement that such restriction is in perpetuity; and

- (2) The following language:

"In the event that a conservation restriction approved by the Conservation Commission and Selectmen of the Town of Carlisle and by the Secretary of the Environment, Commonwealth of Massachusetts, pursuant to M.G.L. Chapter 184, Section 32 is hereafter recorded, the terms of such conservation restriction approved pursuant to M.G.L. Chapter 184, Section 32 shall control over any inconsistent provisions herein."

"The restrictions herein set forth may be released in whole or in part in accordance with the provisions of M.G.L. Chapter 184, Section 32."

SECTION 9. Endorsement and Recording of Approved Plan

A. Endorsement

The approved Definitive Subdivision Plan is intended to be used as a contract document for the construction and inspection of streets and utilities within the Subdivision in conformity with these Rules. The approved Plan shall also contain a "Record Plan" for purposes of filing with the Registry of Deeds or the Land Court.

- (1) The following information and form is required for submission of the "Record Plan" for endorsement by the Board:

- (a) The entire approved Definitive Plan and all conditions of approval and any waivers, as amended by the Board in its decision of approval;
- (b) Two (2) copies of the Plan drawn in compatible black drawing ink on polyester drafting film or other medium acceptable to the Registry of Deeds or Land Court, and 2 contact prints thereof;
- (c) Reference to any required documents such as the vote and the decision of the Board, restrictive covenants, easements deeded to the Town, conditions of the Board of Health or reference to Board of Health failure to report, any Notices of Intent or Orders of Conditions issued or required by the Carlisle Conservation Commission, etc. shall be inscribed on the "Record Plan" with a note that such document shall be recorded with the "Record Plan";
- (d) The space for the endorsement of the Plan by a majority of the members of the Board as follows:

Approved [Date]

Being a majority of the Carlisle Planning Board
Endorsed: [Date]

(2) No construction or clearing and grubbing operations shall commence prior to endorsement by the Board and evidence of recording the Definitive Plan at the Registry of Deeds or Land Court is submitted to the Board as stated below. Any subsequent modification of the Definitive Plan shall be endorsed by the Board and recorded at the Registry of Deeds or Land Court within sixty (60) days of the date of the approval of such modification.

(3) Before endorsement by the Board of an approved Subdivision Plan, the Applicant shall provide the following documents acceptable to the Board:

- (a) A document which creates a single corporate entity which (i) will hold title to the fee interest in the road and all easements relative thereto; (ii) shall be responsible for the maintenance of the road and related structures, any Footpaths, storm drains, storm water and water discharge easements, and plantings required by the Subdivision Plan; and (iii) shall include a demonstrable long-term ability to maintain the road and related structures and easements; and
- (b) a form of agreement binding the corporate entity to maintain the items listed in clause (ii) above in good condition and, as applicable, open to provide sufficient access for fire, police, ambulance/rescue and other vehicles at all seasons.

(4) Subdivision approvals are granted for a two (2) year period. Failure to complete the construction of the ways by the end of that period in accordance with the applicable rules and regulations of the Planning Board shall automatically rescind approval of the plan unless approval with or without modification of the plan has been extended by the Board in writing and notice of said extension is filed in the Town Clerk's office prior to the expiration of the initial two (2) year period or any extended period.

B. Recording Plans

(1) Within one hundred eighty (180) days after the expiration of the statutory twenty (20) day appeal period and the return of an approved plan, the Applicant shall cause to be recorded in the Registry of Deeds, and, in the case of registered land, with the Recorder of the Land Court, a copy of the "Record Plan" and accompanying covenants or agreements, if any. Within ten (10) days of plan recording, the Applicant shall provide the Board one (1) polyester film reproducible, six (6) prints of the Definitive Plan, one (1) of which shall be certified by the Registry of Deeds as having been recorded, and one (1) copy of final covenants and restrictions, noting book, page number and date of recording for each. One (1) copy of the Definitive Plan shall be transmitted to the Building Inspector, the Conservation Commission, the Board of Health and the Carlisle Trails Committee.

(2) The approved "Record Plan," the decision of the Board, any restrictive covenants and other supplementary documentation as required by the Board shall be recorded by the Applicant or his qualified agent at the Registry of Deeds or the Land Court before commencement of any construction or pre-construction activity at the site, including, but not limited to, grading, tree removal or earth removal.

(3) Failure to comply with the procedural and other requirements of these Rules and Regulations, including, but not limited to, the recording requirements set forth in Article II, Section 9(B)(2) above, shall result in an automatic rescission of the approval given hereunder by the Board.

ARTICLE III DESIGN STANDARDS

SECTION 1. General

A. Basic Requirements

Applicant shall observe all design standards for a Subdivision as hereinafter provided. Unless specifically provided otherwise herein, State Construction Standards shall be followed, and all matters left open or undefined in those Standards shall be specified by the Board on a case by case basis.

The design and layout of the proposed Subdivision shall be guided by the goals and objectives of any existing master plans or study plans, or statement of goals and objectives for the Town of Carlisle.

B. Natural Features.

All reasonable efforts shall be made to preserve natural features both within and outside the road right of way, such as, but not limited to, existing vegetation, water courses, open space, large trees, large boulders and rock outcroppings, wet areas, scenic views, historic locations, existing trails and similar community assets, which, if preserved, may add attractiveness and value to the Subdivision.

Design and construction of a Subdivision shall:

- (1) Minimize, to the extent possible, the following:
 - (a) Volume of cut and fill;
 - (b) Area over which existing vegetation will be disturbed, especially if within 200 feet of a river, pond or stream, or having a slope of more than 15%;
 - (c) Removal of trees greater than eight inches (8") in diameter, measured at four feet (4') above ground;
 - (d) Extent of water ways altered or relocated;
 - (e) Visual prominence of man-made elements which are not necessary for safety or orientation;
 - (f) Visibility of building sites from existing streets;
 - (g) Blockage of vistas through new development;
 - (h) Removal of existing stone walls, whether along the boundary of the Subdivision or within the Subdivision;
 - (i) Number of driveways exiting onto existing streets;
 - (j) Alteration of ground water, septic water levels or chemical constituents;
 - (k) Disturbance of important wildlife habitats, outstanding botanical features or scenic or historic environment;
 - (l) Soil loss or instability during and after construction;
 - (m) Alteration or disturbance of land within any flood plain or wetlands area; and
 - (n) Alteration of existing, natural grades.

- (2) Maximize, to the extent possible:
 - (a) visual prominence of natural features of the landscape;
 - (b) legal and physical protection of views from public ways;
 - (c) curvilinear street patterns; and
 - (d) recharge of the underlying aquifer.
- (3) Preserve, unless determined by the Board to be unsuitable or otherwise not appropriate for preservation, (a) stone walls, by locating Lot and Parcel boundaries along the existing line of the walls; and (b) scenic points as identified in the Massachusetts Landscape Inventory and historic sites as identified by the Massachusetts Historical Commission, by incorporating them within public open space or easements as provided by these Regulations.

With respect to B(1) and (2) above, the applicant shall have the burden to show to the Board that it has satisfied the goals set forth in B(1) and (2) and shall satisfactorily demonstrate to the Board that alternative designs of the proposed Subdivision would have a greater negative impact on the natural features of the land within the Subdivision than that which is proposed.

C. Waste and Debris

The disposal within the Subdivision of wood wastes, tree stumps and wood debris generated by the clearing of land in connection with the Subdivision shall be prohibited.

D. Lots

- (1) All lots within the subdivision shall comply with the area, frontage, width and other requirements of the Zoning Bylaws of the Town of Carlisle. Lots created around an existing structure shall not create a dimensional violation and/or shall not make a non-conforming structure more non-conforming.
- (2) The Planning Board may limit the number of Lots which obtain access on a Subdivision Roadway where the Planning Board determines, in its discretion, that such a limitation is necessary to help to achieve the purposes of the Subdivision Control Law. Where the Planning Board makes such a determination, the maximum number of lots shall be noted on the approved Definitive Subdivision Plan.

E. Open Spaces

(1) Before approval of a plan the Board may also in proper cases require the plan to show open space(s) for a park or parks suitably located for playground or recreation purposes or for providing light and air. The open space shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land, but generally not less than 5% of the land to be subdivided, depending on the location and quality of the land being set aside. The minimum area acceptable for set aside shall be three (3) acres. Land designated for open space purpose shall not include wetlands, ledge or other land unsuitable for recreation purposes. The Planning Board may by appropriate endorsement on the plan require that no building be erected upon such open space for a period of three (3) years without its approval.

(2) As an alternative for the set-aside for parks and open spaces, the Applicant may offer to provide other suitable benefits or amenities acceptable to the Board, such as retaining a maximum amount of the lot in its natural condition, retaining other natural features within the Subdivision, or providing a no-build buffer area adjacent to the public road(s).

SECTION 2. Streets/Roads/Footpaths

A. General

(1) A Subdivision, or continuation of a Subdivision, shall not have fewer than two (2) noncontiguous accesses with existing Town roads except in a Subdivision of ten (10) or fewer building lots having legal frontage on a single dead end street.

(2) Roads within a Subdivision shall be laid out such that the closure of any single road will deny access to no more than 10 building lots. Included in this count are any existing lots with denied access, plus those of the Subdivision.

(3) No road constructed on or after June 22, 1981 or shown on a Subdivision plan approved on or after said date having a paved roadway of less than 20 feet may be used to provide access to a Subdivision having more than 15 building lots.

(4) No proposed Subdivision road shall provide access to land in another town unless the land in the adjacent town has suitable and adequate access to an existing road in that town that meets Carlisle's standards for access, including, but not limited to, the length of dead end roads, roadway widths and grading requirements and said proposed Subdivision road shall not be one of the two non-contiguous roads required by Section 2(A)(1) above.

(5) The Board will not approve a Subdivision of land in Carlisle where access to the Subdivision located in Carlisle is through land in another town unless there is access to the Subdivision from a public road in Carlisle, or unless the Planning

Board otherwise finds that there is effective access from Carlisle to the Subdivision.

(6) No Subdivision plan will be approved unless its street system assures physical access to each lot without reliance on common driveways. The driveway for each Lot shall have the ability to access through the frontage of that Lot, and the location of the proposed driveway and the grading of such shall be shown on the Definitive Plan. The driveway shall be designed to minimize storm water runoff from the street onto the Lot or from the Lot onto the street.

(7) All streets in the Subdivision shall be designed so that, in the opinion of the Board, they will provide safe vehicular and pedestrian travel and natural drainage, with no drainage pockets, and so that they are adjusted to the topography and provide the minimum number of intersections with existing streets. Due consideration shall also be given by the Applicant to the attractiveness of the street and Footpath layout in order to obtain the maximum livability and amenity of the Subdivision. Footpaths shall be designed to be easily integrated with existing Footpaths along adjacent roadways. The layout of such Footpaths shall be designed to fit as naturally as possible with the landscape along the right of way. Offsetting the roadway from the centerline of the right of way in order to provide this aesthetic benefit is acceptable but must be specifically approved by the Board.

(8) Provision shall be made for proper projection of streets and ways, trails and Footpaths to ensure adequate future access to any adjoining property which is not yet subdivided. If suitable easements or other connections from existing streets are already established providing potential access to the proposed Subdivision, the streets and ways shall be constructed to connect the proposed Subdivision streets via said easements and connections.

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(9) The proposed streets and Footpaths shall compose a system that ensures safe and adequate circulation of vehicular and pedestrian traffic within the proposed Subdivision and coordination with adjacent streets and roads. In order to ensure vehicular and pedestrian safety, the Board will consider the adequacy of streets adjacent to or providing access to a proposed Subdivision. When, in the opinion of the Board, a Subdivision is deemed to have a detrimental effect on safety and vehicular and pedestrian traffic flow or where a Subdivision borders on an existing but inadequately constructed street, the Board may require appropriate and reasonable improvements in streets and ways bordering or providing access to the Subdivision, including the construction of Footpaths, to minimize congestion and to ensure safe and adequate vehicular and pedestrian travel.

(10) Article X, Section 10.3.8 from Carlisle's General Bylaws governs the width of rights-of-way and pavements.

(11) Where a Future Street System plan for the Town shows a proposed street on land within the Subdivision, the street system thereof shall provide a street in the same general location as shown on the Future Street System plan.

(12) Where a Footpath Master Plan shows a proposed Footpath adjacent to the Subdivision, the Footpath system of the proposed Subdivision shall extend to the proposed Footpath.

(13) Reserve strips prohibiting access to streets, Footpaths, or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.

(14) Streets and Footpaths shall not be located in such a manner as to terminate within less than 100 feet of any boundary of the Town of Carlisle or to project or extend across such boundary unless specifically approved by the Board as being in the public interest, having regard to safety of travel, congestion of adjacent public ways, and coordination with other ways.

(15) Any fill material used shall be free of hazardous materials and free of construction debris or other materials that would not allow the fill to be properly compacted and stable.

(16) Any damage to newly constructed or existing pavements which in the opinion of the Board or its designated agent was caused by the contractor's operation shall be repaired by the contractor as directed by Board or its designated agent at the contractor's expense.

B. Alignment and Width

(1) Intersections along an existing and/or a proposed Local Street shall have minimum centerline offsets of not less than one hundred twenty-five (125) feet. Intersections along an existing and/or proposed Collector Street shall have minimum centerline offsets of not less than 400 feet, and intersections along an existing and/or a proposed Major or Minor Arterial street shall have minimum centerline offsets of not less than 600 feet. Streets intersecting on opposite sides of the same street shall be laid out either directly opposite one another or shall meet the minimum centerline offsets set forth above.

(2) Streets shall be laid out so as to intersect as nearly as possible at right angles. No street shall intersect any other street at less than sixty (60) degrees.

(3) The curb radius at street intersections shall have a minimum radius of 25 feet and a minimum property line radius of 25 feet and be sufficient in the opinion of the Board to safely accommodate all normal traffic. Considerations shall include but not be limited to sight lines, terrain, street width, street grades, and anticipated traffic flow.

(4) The minimum centerline radius shall be as shown on Exhibit E. Warning signs shall be provided where appropriate.

(5) The super elevation of curves, sight distances, tangents between curves, grades, transition areas, crest and sag vertical curves and stopping sight distances will be determined by using the table set forth on Exhibit E.

(6) At locations where Subdivision roadways intersect existing town roadways, sight distances shall comply with AASHTO standards for the 85-percentile speed measured along the existing roadway. No intersection can occur at a point where grades along the existing street are in excess of 5 percent.

(7) The intersection of any new roadway measured from its edge cannot be placed within 50 feet of an existing driveway measured to the edge of the driveway.

(8) Driveway access zones shall be designated along the frontage of legal Lots to demonstrate that a driveway can be built that has a grade of 10 percent or less and that the 25 feet adjacent to the roadway be at a grade of 2 percent or less.

(9) All appropriate traffic signage shall be provided as determined by the Board.

C. Grade

(1) The centerline grade for any street shall be as set forth on Exhibit E.

(2) The maximum centerline grades shall be as set forth on Exhibit E and as set forth in Article III, Section 2(C)(3) below.

(3) Where the grade of any street at the approach to an intersection exceeds two percent (2%), a leveling area shall be provided having not greater than two percent (2%) grades for a distance of not less than fifty (50) feet, measured from the edge of pavement of the intersecting street.

(4) If required by the Board, curbing shall be required for the full length of a roadway if any part of the roadway exceeds three percent (3%) grade, except where alternate means of flow and erosion control, acceptable to the Board, is provided.

D. Dead-end Streets

(1) No part of the street right of way shall be more than one thousand (1000) feet measured by the centerline from the point of closure referred to in the definition of a Dead-end Street in Article II, Section 1 of these Regulations and no Dead-end Street shall provide legal frontage for more than ten (10) building lots.

- (2) Dead-end Streets shall be provided at the closed end with a Cul-de-Sac turnaround having an outside street line diameter of one hundred and sixty (160) feet, with an outside diameter of the paved surface of one hundred and forty (140) feet. A landscaped island having a diameter of one hundred (100) feet shall be provided in the center of the turn-around and the natural vegetation shall be retained where possible; in areas that cannot retain the natural vegetation, a landscaping plan shall be provided for the Cul-de-Sac island.
- (3) A Cul-de-Sac of a Dead-end Street shall not have a slope in any direction of greater than 2%.
- (4) No more than three Lots can be accessed on the Cul-de-Sac.
- (5) At the request of the Board, Dead-end Streets shall have sidewalks or bikeways designated on the plans. If a Subdivision includes extending a Dead-end Street that has previously had such a sidewalk or bike path designated, but not built, the proponent may be required to construct such sidewalk as part of its work.
- (6) Where a temporary Dead-end Street extends more than three hundred (300) feet beyond an intersection, there shall be constructed as part of the roadway, a temporary turn-around located directly adjacent to the Subdivision boundary and extending across the full width of the street right-of-way.

SECTION 3. Easements

- A. An easement shall be given to the Town to provide access from the existing public way or proposed Subdivision road to the source of water and for maintenance of the water hole or dry hydrant system required by Section 4 below. Easements for storm drains or fire protection across lots or centered on rear or side lot lines shall be provided where necessary and shall be at least twenty (20) feet wide.
- B. Where a Subdivision is traversed by a watercourse, drainage way, channel or stream, the Board may require that there be provided a storm water easement of adequate width to conform substantially to the lines of such water course, drainage way, channel or stream, and to provide for construction or other necessary purposes.
- In addition, the Board may require easements necessary for the proper discharge of water.
- C. Easements for Footpaths and woods paths and trails will be required by the Board to provide for passage as part of an existing or proposed town Footpath and trail system. Such easements shall generally be at least twenty (20) feet wide-or less, in locations and at the specific width as required by the Board in consultation with the Town's Trail Committee.

- D. Any easement under this section shall be assigned to the corporate entity as required by Article II, Section 9(A)(3) or to the Town, as determined by the Board.
- E. All easements, except an easement specifically serving the individual dwelling, shall not intersect within the ellipse required by Section 4.1.3.3 of the Carlisle Zoning By-Laws.
- F. The boundaries of all easements shown on the Subdivision Plan shall be satisfactorily marked on the ground to enable owners of the Lots and the Board and its engineers to be able to identify the location of such easements.

SECTION 4. Fire Protection

- A. All Lots and dwellings within the Subdivision shall have access to an adequate source of water, as defined below, to ensure satisfactory fire protection, as determined by the Planning Board in consultation with the Fire Chief.
- B. A source of water shall be adequate if it is no farther than 25 feet from the nearest access point which can be reached by a Fire Department truck and is accessible for use by the Fire Department, and is (in order of desirability):
- (1) A water hole having a minimum recharge rate of 3,000 gallons per minute, or
 - (2) A water hole or fire pond shown to contain 20,000 gallons of usable water throughout the year, where usable water is that water which can be removed from the water hole without reducing the depth at the designated suction hose location to less than four (4) feet, or
 - (3) When a water source described above is not available, fire cistern(s) with enough capacity to adequately protect the neighborhood. The fire cistern(s), the number of cisterns, and the locations of such shall conform to the "Specifications and Requirements for Fire Protection Cisterns" issued by the Carlisle Fire Department dated October 1996, as amended on July 1, 1999, as the same may be amended or substituted from time to time.
- C. If required by the Board, a five (5) foot high chain link fence with locking gate shall be provided to enclose each water hole or fire pond.
- D. After consulting with the Fire Chief, a Subdivision Plan shall be approved by the Board only upon the presentation of evidence to the Board that adequate provisions for fire-fighting have been made.

SECTION 5. Improvements

A. Street Grading

(1) The entire area of each road right-of-way shall be cleared of all stumps, brush, roots, boulders, trees, and like material not intended for preservation pursuant to Article III, Section 1(B). Notwithstanding Article III, Section 1(B), all vegetation, stumps, brush, boulders, and the like shall be cleared to the limit of the construction of the road and side slopes.

(a) Notwithstanding the second sentence of Article III, Section 5(A)(1) above, the Board may require the Applicant to clear the right-of-way of natural materials as little as possible in order to preserve the natural features of the parcel and require that clearing only occur as necessary to provide adequate sight lines for traffic at curves and intersections and to provide for side slopes where applicable.

(2) Within each street, the full length and width of the roadway and shoulders shall be excavated or filled, as necessary, to a subgrade parallel to the finished grade herein required. If the soil is soft or yielding, or contains rocks or boulders, clay, sand pockets, peat, loam, organic material or other material detrimental to the subgrade, such material shall be removed and replaced with ordinary fill. Ordinary fill shall consist of naturally occurring soil free of logs, stumps, roots, boulders, debris, and appreciable amounts of compressible or organic soils. Ordinary fill shall have the physical characteristics of soils designated A-1, A-2-4, or A-3 under AASHTO M145. Stones over six (6) inches in greatest dimension shall be excluded. Ordinary fill shall be spread and compacted in layers not exceeding twelve (12) inches. Each layer shall be compacted to 95 percent of maximum dry density as determined by AASHTO Test Designation T99, Method D.

(3) The boundaries of the right-of-way shall be satisfactorily marked on the ground after the right of way has been cleared and prepared as stated above to enable owners of the Lots and the Board and its engineers to be able to identify the boundary line between the Lot and the right-of-way.

B. Roadways

(1) Roadways shall be constructed for the full length of all streets within the Subdivision shown on the Plan, except for any portion of a street which is not needed to provide access or frontage to a Subdivision lot. In such cases, however, only the requirements for roadway construction (including related shoulders and side slopes) shall be waived; the requirements hereof for Street Grading (Article III, Section 5(A)), Storm Drainage (Article III, Section 5(G)), and Monuments (Article III, Section 5(I)) shall still be in effect. The centerline of all constructed

roadways shall coincide with the centerline of the street rights-of-way, except as allowed under Article III, Section 2.

(2) The minimum width of paved roadways shall meet the requirements of Section 10.3.8.3. of the General Bylaws of the Town of Carlisle.

(3) Roadways shall be provided with a foundation consisting of twelve (12) inches of compacted gravel, laid to a centerline grade 3 inches below the proposed finished grade and having a transverse grade conforming with the requirements of the Typical Roadway Cross-Section (Appendix A). The minimum width of the gravel base of the roadway shall be 28 feet, extending 14 feet or more on either side of the centerline of the paved roadway. Gravel shall consist of hard durable stone and coarse sand free from loam and clay, uniformly graded and containing no large stones. Gradation requirements shall be determined by AASHTO T27 and shall conform to the following:

SIEVE	PERCENT PASSING
4"	100
1"	60-100
1/2"	50-85
No. 4	40-75
No. 40	10-35
No. 200	10

The gravel shall be spread and compacted in layers not to exceed six (6) inches in depth. Each layer shall be compacted to 95 percent of maximum dry density as determined by AASHTO Test Designation T99, Method D, at optimum moisture content. Any area of gravel base which, after being rolled, does not form a satisfactory, solid, stable foundation shall be removed, replaced, and recompactd. In place density tests shall be made in accordance with AASHTO Test Designation T191. The Board may require additional gravel in those areas where, in its opinion, the ground conditions make it necessary.

(4) Roadways shall be paved with two courses of bituminous concrete laid on a previously approved compacted gravel base. The surface course and binder course shall be laid two (2) inches thick each as measured after compaction. These thicknesses are minimum thicknesses, not average thicknesses.

Bituminous concrete surface course and binder course shall both conform in all respects to Commonwealth of Massachusetts, Massachusetts Highway Department, Standard Specifications for Highways, Bridges and Waterways for Class I, type I-1. Installation and construction of bituminous concrete pavement shall conform in all respects to the requirements of Commonwealth of Massachusetts, Massachusetts Highway Department, Standard Specifications for

Highways, Bridges and Waterways, for Class I Bituminous Concrete Pavement Type I-1, Section 460.

(5) Curbing, if used, shall be sloped granite (Massachusetts Highway Department Type SB Granite Edgestone); however, vertical granite (Massachusetts Highway Department Type VA4 Granite Curb) shall be used at street intersections where the radius is fifty feet (50') or less. Transition stone shall be used between sloped granite curbing and vertical granite curbing. Curbing shall not be used around the interior of the island of a Cul-de-Sac.

(6) The binder course shall be exposed to one (1) winter season (November 15-April 30) prior to the application of a wearing course. No paving may take place before April 15 or after November 15 in any year.

C. Footpaths

(1) Footpaths shall be required by the Board to improve circulation and connections within existing, proposed and potential future Subdivisions, streets and ways unless the Board determines that safe pedestrian travel is otherwise provided. The Footpath shall be on at least one side of the street, and the design and construction shall be based upon the nature of the Subdivision and the natural environment with the goal of maintaining a natural appearance and blending into the natural land features and terrain. In addition, the Board may require the installation of pedestrian ways, trails, bridle paths, bicycle paths and/or Footpaths where deemed necessary to provide adequate circulation or access to schools, playgrounds, parks, shops, transportation, open spaces, recreation and conservation areas, other community facilities, and to and between existing, proposed and future developments and neighborhoods. Generally, the Footpath will be four (4) to five (5) feet wide, shall follow the existing terrain and any existing or proposed stone walls, and shall meander around large trees and rock outcropping, with the objective of minimizing any adverse impact on the natural environment. The Applicant shall consult with the Carlisle Pedestrian and Bike Safety Advisory Committee as early as possible in the application process to discuss the location and type of Footpath for and in connection with the Subdivision.

(2) Footpaths may, in appropriate circumstances, be requested to be constructed along existing roadways.

(3) Footpath construction shall begin upon a firm and stable subgrade free of loam, roots or other organic materials. A gravel base having a minimum thickness after thorough compaction of six (6) inches shall be required. Gravel shall be free of all stone over three (3) inches in greatest dimension, free from loam, clay, excessive fines or other foreign matter, and shall be of such a gradation to allow adequate compaction. At the Board's discretion, the Footpath's surface shall consist of (a) Class 1, Type 1 bituminous concrete with a wearing surface of 2.5 inches applied in two courses, (b) bituminous concrete similarly

applied with an additional course of gravel not greater than .5 inches at its greatest dimension, or (c) an aggregate surface with organic stabilizer.

(4) The area between the Footpath and the road pavement is to be finished as directed by the Board, which will consider the desirability of maintaining the natural barriers such as trees, rocks, and fences in said area.

(5) Handicap ramps shall be installed at all crosswalks and driveways in accordance with the requirements of the Massachusetts Architectural Access Board and in accordance with the Americans with Disabilities Act ("ADA") and all Footpaths shall comply with the ADA.

(6) If the Board concludes that a Footpath is not currently required within the Subdivision, the Board may, nevertheless, require the Applicant to grant the Town easements within the Subdivision which will enable possible future construction and use of a Footpath.

(7) At the Board's option the maintenance of the Footpaths within the Subdivision shall be the responsibility of a single corporate entity controlled by the owners of the Lots within the Subdivision pursuant to an agreement acceptable to the Board.

(8) If approved by the Board, the Applicant may, in lieu of the installation of all or some of the Footpaths in the Subdivision, contribute funds to the Town to mitigate the adverse impact of the Subdivision on pedestrian safety and vehicular traffic at a rate of \$15 per linear foot based on the length of the Footpath that otherwise would have been required by the Board. The contributed monies shall be deposited in the "Carlisle Pathway Account" for the use of constructing and maintaining Footpaths and trails in Carlisle.

D. Shoulders

(1) Notwithstanding the provisions of Article III, Section 5(D)(2), stabilized shoulders having a width of at least four (4) feet on Dead-end Streets, six (6) feet on Collector and Local Streets and eight (8) feet on Major and Minor Arterial Roads shall be constructed on each side of the roadway.

(2) Such shoulders shall consist of at least six (6) inches of good quality loam brought to a finished grade, rolled and seeded, and laid on at least nine (9) inches of well-compacted base material except where erosion control requires use of alternative material.

(3) No utility poles or trees shall be retained or placed within the required shoulders so as to be closer to the edge of the paved roadway than two (2) feet on Dead-end Streets, four (4) feet on Collector and Local Roads, and six (6) feet on Major and Minor Arterial Roads.

E. Side Slopes

(1) The area outside the shoulders may be sloped. Said slope shall start not less than the required shoulder width from the edge of the roadway, shall extend until it meets the finished grade of abutting lots and shall not exceed one (1) foot vertical for every three (3) feet horizontal.

(2) Loam shall be applied to a depth of not less than four (4) inches, rolled and seeded. Loam shall cover all graded shoulders and backs of shoulders up to and blended into natural ground cover.

F. Trees and Other Vegetation

(1) Trees, not less than twelve feet (12') in height and at least two inches (2") in diameter measured at four feet above ground and of a species approved by the Board shall be planted on every street and within any Cul-de-Sac in the Subdivision wherever, in the opinion of the Board, existing woodlands or suitable individual trees are not retained. Placement of trees shall be at intervals not greater than 40 feet, in one-half cubic yard of topsoil. The Applicant shall be responsible for any trees which do not remain upright and in good health until the street has been accepted by the Town.

(2) All cut and fill slope within or contiguous to the street right-of-way shall be planted with suitable, well-rooted, low growing plant materials as determined by the Board. Wood chips, mulch, seeding or siding shall be used to eliminate erosion during construction and until permanent vegetation is established.

(3) Whenever possible, the Applicant shall maintain existing trees and plantings rather than removing such and replacing with new plantings. All plantings shall be native, non-invasive plant species and acceptable to the Board.

(4) A Maintenance Plan shall be prepared as part of the design of the landscaping plan. The plan shall include the types of maintenance normally required for the trees, landscaping and planting approved as part of the Subdivision. The plan shall be submitted to the Board for approval, and shall be included on the Definitive Plan.

(i) At the Board's option the maintenance of the trees, plantings and landscaping shall be the responsibility of a single corporate entity controlled by the owners of the Lots within the Subdivision pursuant to an agreement acceptable to the Board.

G. Storm Drainage

(1) Storm drains, culverts and related installations, including catch basins, vegetated swales, gutters and manholes, and water quality inlets where necessary in the opinion of the Board, shall be installed within the Subdivision to permit unimpeded flow of all natural water courses; to insure adequate drainage of all low points along streets, to control erosion and to intercept storm water runoff near the corners of the roadway at intersecting streets and along streets at intervals reasonably related to the extent and grade of the area drained; and to intercept excessive ground water in the subsoil along all streets. Provision shall be made for adequate disposal of all surface water intercepted or otherwise collected.

(2) Use of natural areas to control, mitigate, and/or alter rates of runoff is preferred. When such areas are utilized, their existing vegetation shall be left undisturbed to the maximum extent that is practicable, as approved by the Board. However, if such natural drainage areas are insufficient or non-existent, other methods of controlling runoff including, but not limited to, detention basins, infiltration trenches and basins, vegetated swales, created wetlands, and retention basins. Newly constructed drainage areas shall be planted with native trees, shrubs, and other vegetation necessary to stabilize any slopes and to facilitate percolation of stormwater and appropriate for pollutant removal. The landscape plan for the Subdivision should show proposed vegetation and existing vegetation to be saved. Newly constructed drainage areas shall be designed to be as maintenance-free and aesthetically pleasing as is practicable.

(3) No storm water shall be discharged directly to a resource area as defined in the Wetlands Protection Act and its regulations 310 CMR 10.00, without meeting the performance standards set forth in 310 CMR 10.00 and the Department of Environmental Protection's "Stormwater Management Volume One: Stormwater Policy Handbook and Volume Two: Stormwater Technical Handbook" as the same may be amended.

(a) The material used for the dike construction shall be specified and a cross-section detail provided. The dike shall provide for suitable access for equipment necessary for maintenance of the basin. Side slopes of the basin shall be no steeper than 3:1. At least one foot (1') of free board shall be provided in the 100 year design storm.

(b) Where stormwater drains into the basin, vegetated swales, sediment forebay, water quality inlets or other such best management practices ("BMP") shall be provided to localize sedimentation. Dead storage space below the outlet from the detention basin shall be designed for the build-up of sedimentation. This information shall be shown on the plans.

(c) The outlet structure shall be as maintenance-free as possible and designed to prevent debris from plugging the outlet structures. Details of the outlet structure shall be shown on the plans.

(d) An emergency spillway shall be provided to allow release of runoff for the storm frequency greater than the 100 year storm or outlet structure failure. Spillways shall be constructed of properly-sized riprap carefully placed and hand chinked. Spillway details shall be shown on the plans.

(e) Drainage easements shall be provided to include all of the detention basins or other BMP facilities and their appurtenant structures. At a minimum the easement shall extend twenty feet from the toe of the exterior basin slope, and there shall be a minimum twenty foot wide access easement from the nearest public way. The easements pertinent to the detention basin or other BMP facilities together with the basin shall be held by the legal entity formed pursuant to Article II, Section 9(A)(3).

(f) The proposed stormwater management system and BMP facilities shall be located entirely on private property and to the maximum extent possible on one lot.

(g) The construction of the stormwater management system and/or other BMP facilities shall precede all other construction, excepting that clearing which is necessary for access to the basin site and the installation of erosion control measures.

(h) An enforceable covenant, running with the land, to the benefit of the Town, shall be imposed on every Lot within the Subdivision, as designated by the Board, which covenant shall obligate each Lot owner for a pro-rated share of the storm water management facilities and any appurtenance thereto. Said covenant shall include a provision for its extension pursuant to M.G.L. c. 184 § 27 as may be amended from time to time. The operation and maintenance requirements of the storm water management facilities as described in Article III, Section 5(G)(3)(g) shall be incorporated into this covenant. The covenant shall be reviewed by Town Counsel and shall be subject to approval by the Board. The covenant shall provide the Town the perpetual right and/or authority to enter upon easements pertinent to the storm water management facilities for purposes of emergency repairs or maintenance, but this shall not be construed to impose any legal obligation upon the Town to render such services.

(i) Infiltration of runoff from impervious surfaces (other than roof runoff) shall only be allowed where pretreatment of runoff for sediment removal of eighty percent tss (total suspended solids) is provided.

(j) Infiltration design shall be based on Darcy's Law ($Q=Kia$) where the permeability coefficient of the soil is determined through in-situ permeability testing (constant or falling head tests). The bottom of the infiltration system shall be a minimum of two (2) feet above seasonal high groundwater. Seasonal high groundwater shall be determined per Title V. The Applicant should consult with the Board and its engineer to determine with specificity the methodology to be employed in connection with the infiltration testing which will be used as a basis in designing the infiltration system.

(k) Swales shall be designed using the methodology contained in "Hydraulic Engineering Circular 15" (HEC 15) as published by the Federal Highway Administration. Soil/vegetation shear stresses shall be calculated for temporary (during construction) and permanent conditions and submitted to the Planning Board as part of the drainage calculations for review.

(4) Detention basins and all other BMP facilities shall comply with the design standards and performance requirements set forth in the Department of Environmental Protection's "Stormwater Management Volume One: Stormwater Policy Handbook and Volume Two: Stormwater Technical Handbook", as the same may be amended.

(5) When a closed drainage system is proposed, catch basins will be required at all low points and on both sides of the roadway on continuous grade at intervals of not more than three hundred feet (300'). Drainage patterns at intersections shall be evaluated and catch basins designed and constructed so as to prevent any flooding at the intersection. Any catch basins used shall be at least six feet (6') deep and four feet (4') in diameter (inside measurements), with a forty-eight inch (48") or greater sump below pipe invert and shall be constructed of precast concrete units. Oil and grease traps shall be installed on all structures. Manhole covers and catch basin grates shall be in conformance with Massachusetts Department of Public Works Section 201, with catch basin grates designed and placed so as to cause no hazard to bicycles. Subdrains, constructed as shown in the Mass. Highway Department Construction Standards, shall be installed at the edge of the area to be paved when deemed necessary by the Board.

(6) All drainage pipes shall be at least twelve inches (12") inside diameter and made of reinforced concrete conforming with Massachusetts Department of Public Works specifications for Class III pipe or such higher class as may be required by the depth of cover. Where depth of the cover on the pipe is less than thirty-six inches (36"), Class V pipe shall be used. The minimum cover of a pipe shall be eighteen inches (18"). The pipe shall be laid on a slope of not less than .5%. The minimum pipe velocity for the design storm shall be two (2) feet per second and the maximum velocity shall be ten (10) feet per second. Manhole covers and grates shall be in conformance with Massachusetts Department of Public Works specifications 201, designed and placed so as to cause no hazard to

bicycles. No catch basins shall serve as manholes. Trash racks shall be installed at both ends of all covers. A detail of the drainage pipes and all connections shall be provided on the Definitive Plan.

(7) Interceptor drains shall be designed and constructed and incorporated into the drainage system where warranted by groundwater elevations.

(8) Proper connections shall be made with any existing drains and adjacent streets or easements which prove adequate to accommodate the drainage flow from the Subdivision. In the absence of such facilities or the inadequacy of the same, it shall be the responsibility of the Applicant to extend drains from the Subdivision as required to properly dispose of all drainage from said Subdivision in a manner determined to be proper by the Board and to secure for the Town any necessary drainage rights.

Where adjacent property is not subdivided, provision shall be made for the extension of the drainage system by continuing appropriate drains to the exterior boundaries of the Subdivision, at such size and grade as will allow for their proper projection.

(9) Stormwater management systems shall be designed such that in 2-year, 10-year, 25-year, and 100-year storms the peak flow rate across any section of the external boundary of the Subdivision does not exceed the peak flow rate across said section of boundary prior to the Subdivision. For purposes of this calculation the ultimate anticipated development of the Subdivision shall be assumed, including but not limited to houses, roadways and clearing. Calculations shall be made using Soil Conservation Service TR-20 or TR-55 Method with Type III rainfall distributions and a 24 hour duration. Rainfall data shall be based on National Weather Bureau TP-40.

(10) The plan shall include methods to control the effects from sedimentation and erosion resulting from the Subdivision both during and after construction.

(11) Prior to installation of binder course, catch basins shall be set to binder grade and, prior to installation of the top course, catch basins shall be raised to finished grade and set in concrete.

(12) The Board may also require provision for subsoil drains, along or near the edge of the traveled way, wherever, in its opinion, ground water conditions in the subsoil warrant such drains.

(13) No drainage outfall shall discharge below the seasonal high water line of a stream, swamp, or body of water.

(14) A suitable headwall or flared end section shall be provided at the outfall end of all drains. Riprap aprons shall be provided at all headwalls and flared end

sections. Riprap shall be sized according to the discharge rate for the design storm.

(15) All drain manholes shall be provided with suitable steps. All drain manholes over ten (10) feet in depth shall be a minimum of five (5) feet in diameter (inside diameter).

(16) No bell ends are to be laid in manholes or catch basins.

(17) Suitable grates are to be installed at the discharge or inlet end of all drains eighteen (18) inches in diameter or larger.

(18) All catch basins shall discharge into a drain manhole or directly into a BMP facility. Catch basin to catch basin systems shall not be allowed.

(19) The closed storm drain system shall be of adequate capacity to accommodate flows from a ten (10) year storm at a minimum. Culverts shall be of adequate capacity to accommodate flows from a fifty (50) year storm at a minimum. The calculations used to determine the size of pipes in the drainage system shall be based on the Rational Method, and shall be submitted to the Board for review and approval. Culverts shall be sized using Federal Highway Administration's HY8 procedures.

(20) All Definitive Plans shall be reviewed to determine whether such proposals will be reasonably safe from flooding.

(a) The Subdivision shall be designed consistent with the need to minimize flood damage;

(b) All utilities and facilities, such as septic, water, gas and electrical systems are located and constructed to minimize or eliminate flood damage; and

(c) Adequate drainage systems are provided to reduce exposure to flood hazard.

(21) To avoid misunderstanding and confusion, and to minimize unnecessary costs and delays by amendments or modifications to approved Definitive Plans, Applicants are strongly encouraged to seek the approval of the Conservation Commission before the submission of the Definitive Plan, particularly as the plan relates to drainage affecting wetlands under the jurisdiction of said Commission.

(22) An Operation and Maintenance Plan shall be prepared as part of the design of the stormwater management system and other BMP facilities. The plan shall include the types of maintenance normally required and the frequency of necessary inspections and thresholds for maintenance

activities. Sediment monitoring and removal methods shall be part of the maintenance plan. The stormwater management system shall be constructed for minimal maintenance. The plan shall be submitted to the Board for approval, and shall be included on the Definitive Plans.

- (i) At the Board's option the maintenance of the stormwater management system and other BMP facilities shall be the responsibility of a single corporate entity controlled by the owners of the Lots within the Subdivision pursuant to an agreement acceptable to the Board.

H. Driveway Entrances

In order that surface water from roadways shall not drain onto individual lots, driveway entrances shall be constructed so that they slope toward the roadway for a minimum distance of four feet (4') at not less than one inch (1") per foot. All driveway entrances shown on the Definitive Plan shall be paved from the gutter line to the right-of-way line when the binder course and the top courses have been placed on the roadway.

I. Monuments

- (1) Monuments shall be installed at: (i) street intersections; (ii) all points of change in direction or curvature of street rights-of-way; (iii) points of intersection of lot lines, street rights-of-way, and easements; (iv) points of change in direction or curvature of easement boundaries; (v) the center point of any Cul-de-Sac; (vi) satisfactory locations to delineate any Open Space within the Subdivision; and (vii) other points where, in the opinion of the Board, permanent monuments are necessary.

- (2) Such monuments shall be of granite. Monuments shall be not less than five (5) feet in length with a 3/8 inch drill hole in the center, and not less than four (4) inches square in cross section.

- (3) No monuments shall be installed until all construction which would destroy or disturb them is completed.

- (4) The Board shall require a certificate by a registered land surveyor to be obtained at the Applicant's expense, indicating that these permanent monuments are in place and are accurately located, and such shall be indicated on the as-built plan.

J. Street Signs

Street name signs shall be furnished, set in concrete and erected at all street intersections prior to the occupancy of any house on the street. Signs shall be obtained from the Carlisle Department of Public Works. From the time of rough grading until such time as

any street is accepted by the Town as a public street, sign posts at the intersection of such street with any other street shall have affixed thereto a sign designating such street as a private street.

K. Electrical and Telephone Utilities

Electricity, cable television and telephone services and other utilities shall be installed beneath the ground in the subdivision in accordance with accepted power, cable television, and telephone company practice, except where geological considerations, in the opinion of the Board, make such installation impractical.

L. Engineering Plan - Roadway Cross-Section

The "Typical Roadway Cross-Section" plan of the Carlisle Planning Board dated January 4, 1989, or as subsequently revised, is an official planning document, and is a part of these Regulations. Construction of improvements shall be in accordance with the standards set forth in said cross-section. Any deviation from the standards expressed in the said cross-section requires a waiver and must be approved by the Board prior to Subdivision approval.

M. Guard Rails

Guard rails of a type approved by the Board shall be installed wherever grade falls more than five (5) feet below centerline grade within 20 feet of the paved area of any street, or in other cases where the Board determines that safety warrants installation.

SECTION 6. Traffic Study

A. General

(1) A traffic study prepared by a member of the Institute of Transportation Engineers will be required for all applications. At a minimum, the study shall document the roadway conditions at intersections of existing streets and proposed streets including information on traffic volumes, speeds (both observed and posted), and sight distances.

(2) To avoid lengthy delays in the processing of an Application, consultation should be made by the Applicant with the Board during the Preliminary Plan review to determine the scope of the traffic study.

B. Scope of the Traffic Study

In addition to the information required in Section 6 (A)(1) above, the Board may require a traffic study which will include the following:

(1) Existing traffic conditions including street and intersection geometries within one (1) mile of any access to the Subdivision or to the next intersection

with a Major Arterial Street in each direction from which traffic may be expected to access the Subdivision (“Study Area”).

- (2) Estimates of future traffic conditions including trip generation and distribution and levels of services for existing intersections (whether in Carlisle or another town) affected by the proposed Subdivision, taking into account impacts of other previously approved projects and projects pending approval.
- (3) Traffic volume data for both AM and PM peak hours and weekend peaks, as well as average daily trips.
- (4) Any proposed phasing, the impact and mechanics of which shall be outlined to the Board.
- (5) Mitigation measures that could be taken to maintain or improve safety at intersections and along each street within the Study Area.
 - (a) The traffic study shall make specific proposals for mitigation measures to be implemented by the Applicant and/or the Town. The Board may require some or all improvements to be completed by the Applicant as a condition of approval.
 - (b) The study shall take into account any improvements that may be planned by the Town of Carlisle or by the State of Massachusetts.
- (6) A summary of accident data for the last three years collected from the police department within the Study Area.

SECTION 7. Erosion Control

During development and construction, adequate protective measures shall be provided to minimize damage from surface water to the cut face of excavations or the sloping surface of fills. Land shall be developed in increments of workable size which can be completed during a single construction season. Erosion and sediment control measures shall be coordinated with the sequence of grading, development and construction operations and in coordination with the Carlisle Conservation Commission. Control measures, such as biodegradable erosion matting, hydroseeding, berms, interceptor ditches, terraces, temporary sediment basins and sediment traps shall be implemented prior to the commencement of each increment of the development/construction process in coordination with the Carlisle Conservation Commission. Sediment basins (debris basins, desilting basins or silt traps) shall be installed in conjunction with the initial grading operations and maintained through the development process to remove sediment from runoff waters draining from land undergoing development.

The Applicant is required to clean up any sand, silt, dirt or debris which erodes from the Subdivision onto any public street or private property and to remove silt or debris that enters in any existing or newly constructed drainage system.

ARTICLE IV ADMINISTRATION

SECTION 1. *Inspections and Controls*

For the protection of the Town and future residents of the Subdivision, a series of inspections during the course of construction is required to ensure compliance with the approved Definitive Plan.

A. Pre-construction Conference.

A preconstruction conference with Town departments shall be held prior to the commencement of construction. The contractor shall request that the Board schedule such a conference at least one (1) week prior to commencing construction.

B. Inspection by the Board or its designated agent.

No water main, storm drain, catch basin, utility installation, road subgrade or foundation, or any other item of work designated for inspection, shall be backfilled or paved over until inspected by the Board or its representative. The contractor shall be responsible for providing the following for each inspection: complete set of endorsed plans, properly calibrated transit or level, rod and tape. Also, the contractor or one of his laborers shall be available to assist the inspector when necessary.

C. Inspection requests.

Inspections shall be requested by the Applicant at least two (2) full working days (48 hours) in advance by written notice to the Board and to its duly authorized representative.

D. Inspections required.

(1) The following inspections shall be required, at a minimum:

(a) Roadbed inspection: following excavating of the roadbed, but prior to any backfilling. This inspection is conducted after all clearing and grubbing to determine if all unsuitable materials have been removed where required.

(b) Drainage inspection: following installation of drain pipe, culverts, catch basins and all related construction, but prior to backfilling.

(c) Underground utilities inspection: following laying of electric, telephone, gas, cable and any fire systems in roadway and to individual dwellings but prior to backfilling.

(d) Inspection of subgrade: Before subbase is spread, the subgrade shall be shaped to a true surface conforming to the proposed cross section of the highway and compacted. The contractor shall submit a gradation test on the roadway base material to ensure compliance with specifications.

(e) Finished gravel foundation inspection: following application, grading and compaction of gravel foundation. This may include compaction testing.

(f) Pavement inspection: Notice shall be given of the time of paving in order that inspection during and upon completion of pavement may be made.

(g) Final inspection: following completion of roads, permanent bench marks, curbing, berming, walkways, grading, seeding and cleanup. The entire Subdivision must be cleaned up so as to leave a neat and orderly appearance free from debris and other objectionable materials.

(2) The Board shall make such other inspections of the project as it deems necessary to ensure safe and proper construction of the project.

(3) Failure of the Applicant to notify the Board as required herein or comply with the inspection procedures herein shall result in the Board (A) requiring any work not inspected as a result of such failure, at the Applicant's expense, to be removed or to be exposed in order that the proper inspection may be made, or (B) rescinding approval of the Plan in accordance with the Subdivision Control Law.

SECTION 2. Earth Removal and Fill.

A. Required Information

If earth removal or fill is associated with the construction of the Subdivision streets and drainage, the Applicant shall provide the following information:

(1) Amount of earth to be removed or filled;

(2) Proposed disposition of such earth; and

(3) Method of removal and fill, including the means proposed to prevent erosion and sedimentation and to protect adjacent areas.

The Board may prescribe conditions of operations and such conditions will become part of the Subdivision approval.

Any area within the Subdivision used for the extraction of gravel or fill shall be regraded, loamed, and in sod before final release of any performance guarantee is granted by the Board.

B. Rock Excavation

(1) Any required rock blasting shall be done by licensed persons only and shall be carried out in strict accordance with the existing governmental ordinances and regulations. A blasting permit must be obtained from the local Fire Chief(s) having jurisdiction over the area. Any damage to the work or property of others caused by blasting operations shall be repaired at the expense of the contractor.

(2) Whenever the bottom of a trench is rock or boulders, it shall be excavated six (6) inches below grade and refilled to grade with gravel compacted in place. The sides of the trench in rock shall be excavated to such width that no rock shall be closer to the pipe barrel or other structures than six (6) inches when the pipe is laid in the trench with a normal alignment.

SECTION 3. Enforcement

Chapter 41, Section 81-Y shall govern the enforcement of these Rules and Regulations. The following shall be printed as notes on any approved Subdivision Plan prior to endorsement:

“No building permit shall be issued for the construction of any building or structure located on a lot subdivided in violation of the provisions of the Town of Carlisle Subdivision Rules and Regulations. No building permit shall be issued for the construction of any building or structure or a lot within the Subdivision until the Applicant has provided evidence to the Building Inspector of the recording at the Registry of Deeds (or filing with the Land Court, as the case may be) of the Board’s decision granting approval of the Definitive Plan and all deeds, easements, covenants and lot releases pertinent thereto, and of the Definitive Plan.”

SECTION 4. Miscellaneous

A. Severability

If any section, paragraph, sentence, clause or provision of these Rules and Regulations shall be adjudged not valid, the adjudication shall apply only to the materials so adjudged, and the remainder of these Rules and Regulations shall be deemed to remain valid and effective. Any part of these Rules and Regulations subsequently invalid by any federal or state law or modification or the modification of an existing federal or state law shall automatically be brought into conformity with the new or amended law and shall be deemed to be effective immediately, without recourse to a public hearing and the customary procedures for amendment or repeal of such regulations.

B. Incorporation by Reference

For matters not covered by these Rules and Regulations, reference is made to MGL, Chapter 41, Sections 81K to 81GG, inclusive, as amended.

C. Amendments

These Rules and Regulations or any portion thereof may be amended, supplemented or repealed from time to time by the Board after a public hearing, as provided by MGL, Chapter 41, Section 81Q, as amended.

EXHIBIT E

	<u>Local Road/Street</u>	<u>Collector Road/Street</u>
Design Speed	25 mph	30 mph
<u>Horizontal Design Standards</u>		
Minimum Centerline Radius	125 feet	150 feet
Maximum Radius at Intersections		
Intersecting Street	125 feet	150 feet
Main Street	150 feet	200 feet
Superelevation	as appropriate	as appropriate
Minimum Tangent Between Curves	50 feet	50 feet
Width of Right of Way	50 feet	50 feet
Pavement Width	20 feet	20 feet
<u>Vertical Design Standards</u>		
Minimum Grade	0.50% ^a	0.50% ^a
Maximum Grade	8% ^b	6% ^b
Crest Vertical Curve	K=16	K=28
Sag Vertical Curve	K=24	K=35
Maximum Grades at Intersections		
Intersecting Street	2% within 50 feet of edge of main street	2% within 50 feet of edge of main street
Main Street	5% within 75 feet of cross-street centerline	5% within 75 feet of cross-street centerline
Stopping Sight Distances ^c	150 feet	200 feet

^a Minimum grade shall be 1% where curbing is proposed.

^b Maximum grade for Local streets is 6 percent when the radius is less than 200 feet.

^cFor Reference. AASHTO Table III-1 shall govern, including adjustments for grades. Easements for sight distances may be required if conditions warrant.

EXHIBIT F

Carlisle Planning Board Application Fee Schedule

Approval Not Required Filings (ANR)

- 1) For each plan that creates no new boundary lines: Filing fee, per plan \$100
- 2) For each plan that creates new boundary lines: Filing fee, per plan \$100; Per Lot/Parcel created \$100
- 3) If requested, a Project Review Deposit of \$1,000.

Preliminary Plan For Subdivision of Land

- 1) Application fee \$1,000

If the Applicant submits a conceptual plan as referenced in Article I, Section 5.A of the Rules & Regulations, then the Application Fee will be \$250

- 2) Project Review Fee \$1,000

Additionally, during the Preliminary Review process, the Definitive Subdivision Project Review Fee Deposit will be estimated. The amount of the Definitive Subdivision Project Review Fee Deposit will reflect the anticipated consultant fee(s) plus 10%.

Definitive Plan for Subdivision of Land

- 1) Application fee \$3,000

If the Applicant has participated in the Preliminary Plan process as referenced in Article I, Section 5.B of the Rules & Regulations, then the Application Fee will be \$1,000.

- 2) Per lot created \$250
- 3) Project Review Fee Deposit \$10,000

Note: If the Applicant has participated in the Preliminary Review Process, then the Definitive Plan Project Review Fee Deposit will have been determined at that time. The amount of the Project Review Fee Deposit will reflect a more accurate estimate of the anticipated consultant fee(s) plus 10%.

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